

CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE HARPETH RIVER WATERSHED

4.1 Background.

4.2. Characterization of HUC-11 Subwatersheds

4.2.A. 05130204010

4.2.B. 05130204020

4.2.C. 05130204030

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4.2.H. 05130204080

4.2.I. 05130204090

4.1 BACKGROUND. This chapter is organized by HUC-11 subwatershed, and the description of each subwatershed is divided into four parts:

- i. General description of the subwatershed
- ii. Description of point source contributions
- ii.a. Description of facilities discharging to water bodies listed on the 1998 303(d) list
- iii. Description of nonpoint source contributions

The Harpeth River Watershed (HUC 05130204) has been delineated into nine HUC 11-digit subwatersheds.

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 1.1 beta (developed by Tetra Tech, Inc for EPA Region 4) released in 2000.

WCS integrates with ArcView® v3.1 and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

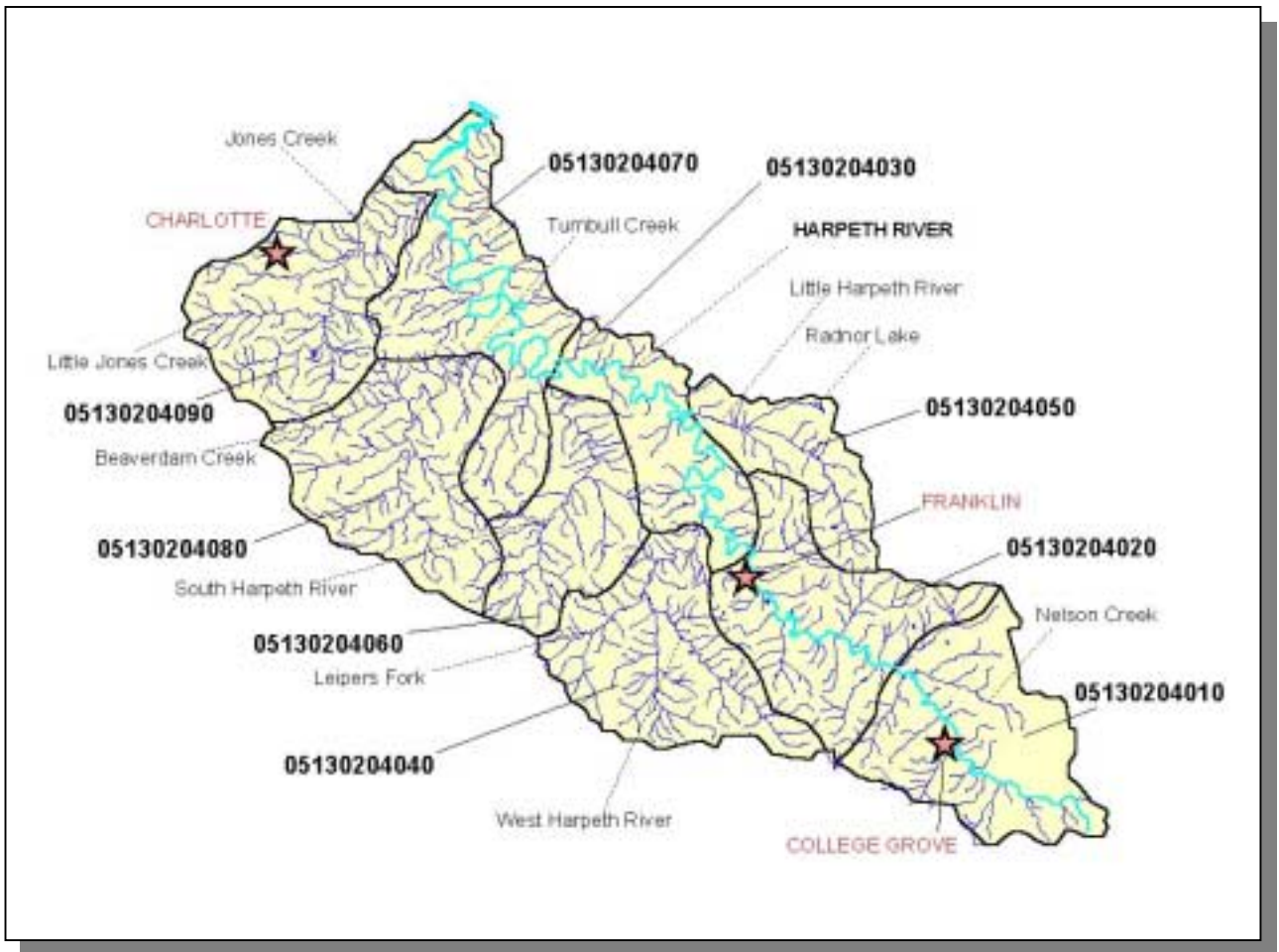


Figure 4-1. The Harpeth River Watershed is Composed of Nine USGS-Delineated Subwatersheds (11-Digit Subwatersheds). Locations of Harpeth River, Charlotte, Franklin, and College Grove are shown for reference.

4.2. CHARACTERIZATION OF HUC-11 SUBWATERSHEDS. The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize each subwatershed in the Harpeth River Watershed. HUC-14 polygons were aggregated to form the HUC-11 boundaries for data analysis.

HUC-11	HUC-14
05130204010	05130204010010 (Harpeth River) 05130204010020 (Harpeth River) 05130204010030 (Harpeth River)
05130204020	05130204010040 (Harpeth River) 05130204010050 (Harpeth River)
05130204030	05130204030010 (Harpeth River)
05130204040	05130204020010 (West Harpeth River) 05130204020020 (Murphree Creek) 05130204020030 (Leipers Fork Creek) 05130204020040 (West Harpeth River)
05130204050	05130204030020 (Little Harpeth River)
05130204060	05130204040010 (South Harpeth River) 05130204040020 (South Harpeth River)
05130204070	05130204030030 (Brush Creek) 05130204030040 (Harpeth River) 05130204030050 (Harpeth River)
05130204080	05130204050010 (Turnbull Creek) 05130204050020 (Turnbull Creek)
05130204090	05130204060010 (Jones Creek) 05130204060020 (Little Jones Creek) 05130204060030 (Sulphur Fork Creek) 05130204060040 (Jones Creek)

Table 4-1. HUC-14 Drainage Areas are Nested Within HUC-11 Drainages. USGS delineated the HUC-11 drainage areas. NRCS inventories and manages the physical database for HUC-14 drainage areas.

4.2.A. 05130204010.



Figure 4-2. Location of Subwatershed 05130204010. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.A.i. General Description.

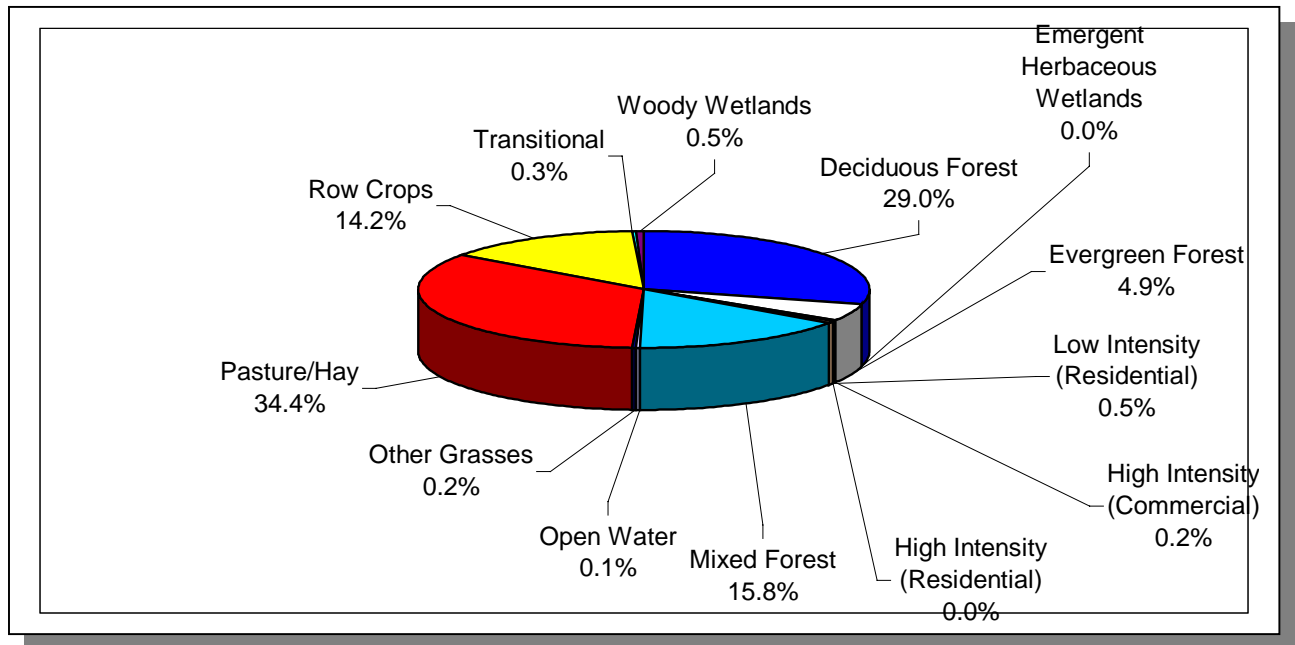


Figure 4-3. Land Use Distribution in Subwatershed 05130204010. More information is provided in Harpeth-Appendix IV.

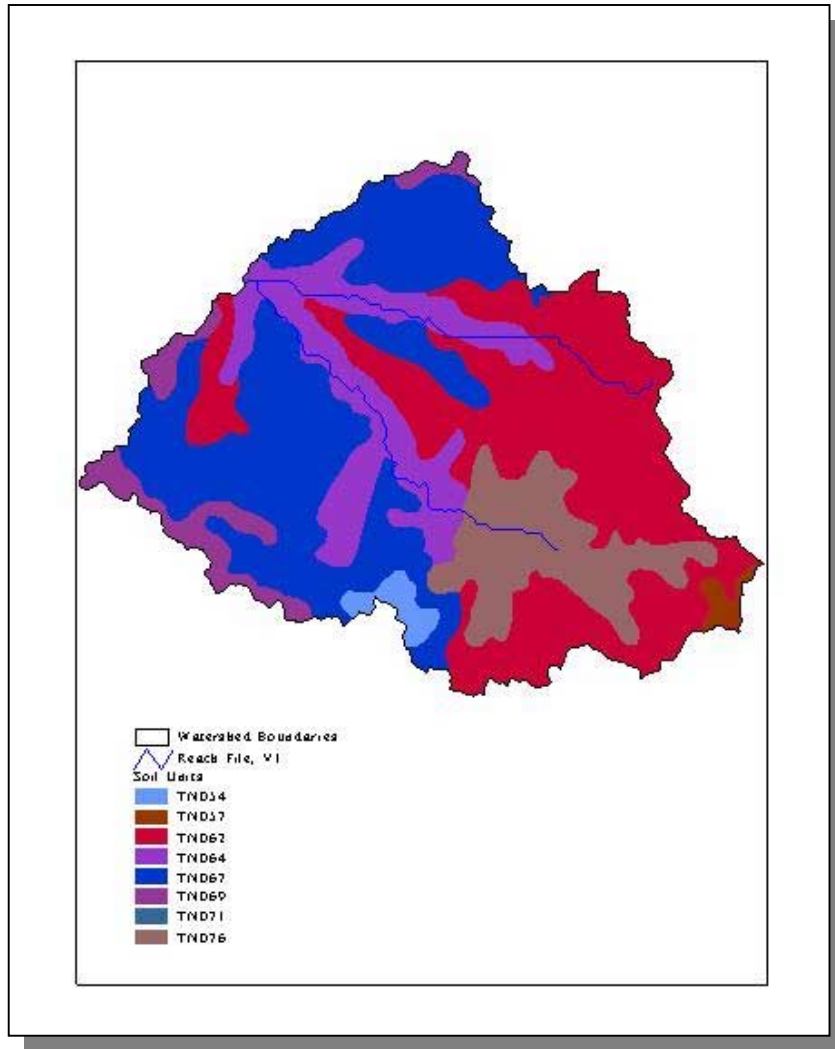


Figure 4-4. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204010.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	C	3.04	4.84	Loam	0.32
TN057	0.00	C	1.14	5.01	Clayey Loam	0.33
TN062	0.00	C	0.98	4.40	Clayey Loam	0.26
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN067	2.00	C	2.69	5.51	Silty Loam	0.35
TN069	0.00	C	2.06	5.36	Loam	0.34
TN071	0.00	C	2.37	5.70	Silty Loam	0.33
TN076	28.00	C	0.73	6.26	Silty Clayey Loam	0.33

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204010. More details are provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Bedford	30,411	34,203	0.1	29	33	13.8
Rutherford	118,570	159,987	7.97	9,450	12,751	34.9
Williamson	81,021	111,453	9.71	7,869	10,824	37.6
Totals	230,002	305,643		17,348	23,608	36.1

Table 4-3. Population Estimates in Subwatershed 05130204010.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Eagleville	Rutherford	491	220	5	211	4

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204010.

4.2.A.ii Point Source Contributions.

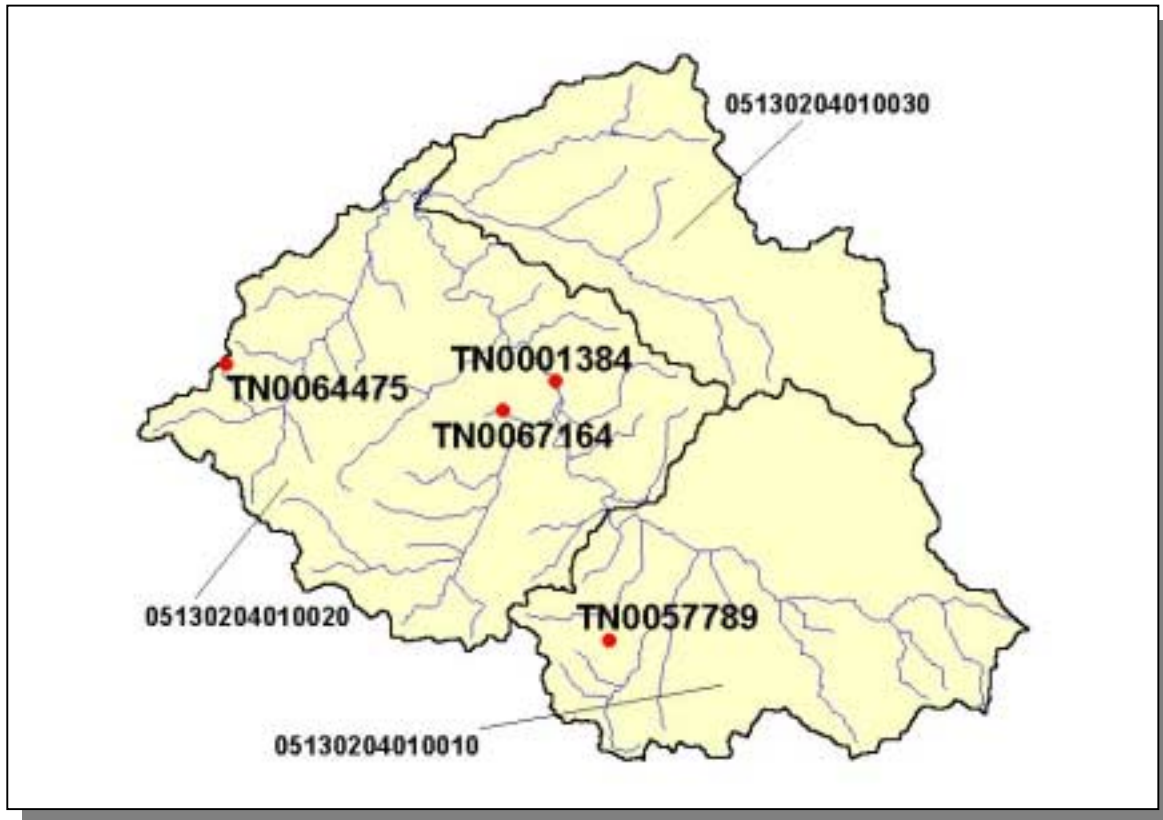


Figure 4-5. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204010. Subwatershed 05130204010010, 05130204010020, and 05130204010030 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

4.2.A.ii.a. Dischargers to Water Bodies Listed on the 1998 303(d) List

There are two NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 05130204010:

- TN0001384 discharges to the Harpeth River at RM 110.3
- TN0057789 discharges to Cheatham Branch at RM 1.9

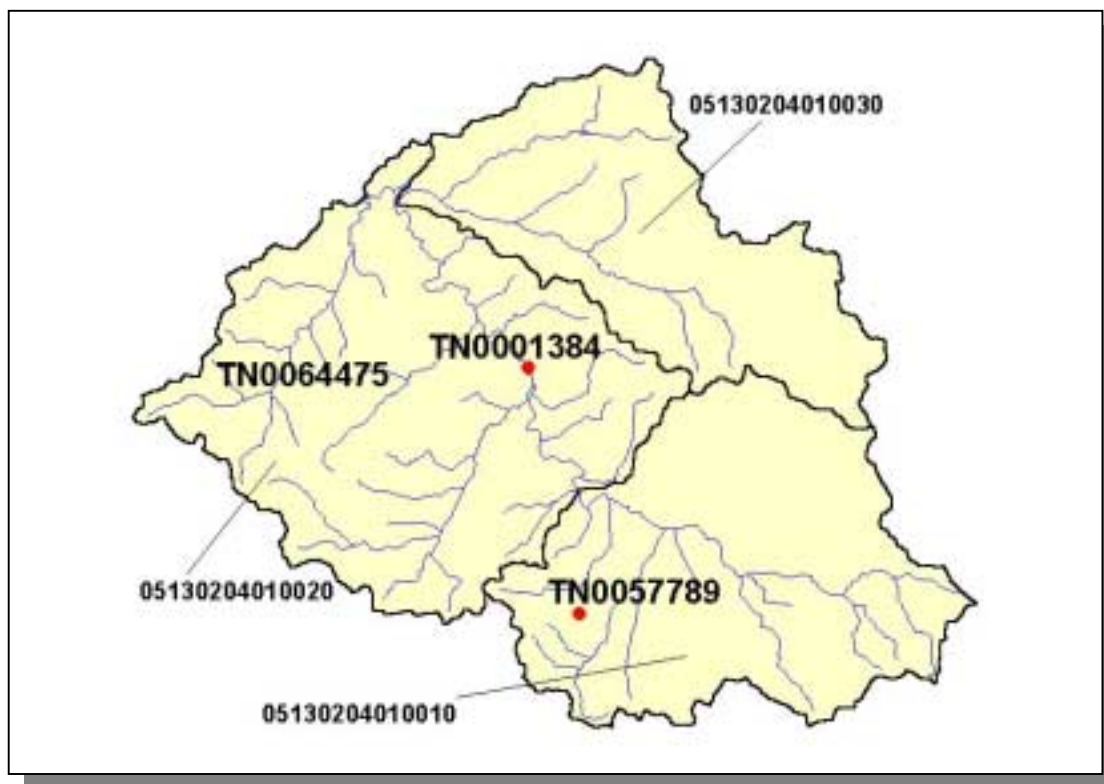


Figure 4-6. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 05130204010. Subwatershed 05130204010010, 05130204010020, and 05130204010030 boundaries are shown for reference. The names of facilities are provided in Harpeth-Appendix IV.

PERMIT #	7Q10	1Q20	30Q2	QDESIGN	QLTA
TN0001384	0	0	3.517		0.027
TN0057789	0	0	0	0.018	

Table 4-5. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204010. Data are in million gallons per day (MGD). 30Q2 data were calculated using the equation method (TN0001384) or using data in *Flow Duration and Low Flows of Tennessee Streams Through 1992* (TN0057789).

PERMIT #	CBOD ₅	NH ₃	FECAL	METAL	WET
TN0001384	X	X		X	X
TN0057787	X	X	X		

Table 4-6. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204010.

PERMIT #	As	Zn	Sb	Pb	TSS	NH ₃ (Summer)	NH ₃ (Winter)	CBOD
TN0001384	X	X	X	X				
TN0057787					X	X	X	X

Table 4-7. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204010.

PERMIT #	Sb	Zn	Pb
TN0001384	3	3	1

Table 4-8. Number of Permit Violations Based on DMR Data (10/31/95-07/31/97) for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204010.

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
7,030	14,160	754	19	91,480	563	172

Table 4-9. Summary of Livestock Count Estimates in Subwatershed 05130204010. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Bedford	74.6	74.6	0.5	1.3
Rutherford	155.7	155.7	0.4	0.9
Williamson	142.0	142.0	1.0	3.3
Totals	372.3	372.3	1.9	5.5

Table 4-10. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 05130204010.

CROPS	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Berry (Horticultural)	0.47
Corn (Row Crops)	4.57
Soybeans (Row Crops)	3.11
Cotton (Row Crops)	4.79
Grass (Hayland)	0.16
Legume (Hayland)	0.67
Legume/Grass (Hayland)	0.31
Grass (Pastureland)	0.72
Legume (Pastureland)	0.23
Grass,Forbs, Legumes (Mixed Pasture)	0.48
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.39
Conservation Reserve Program Land	0.19
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.28
Other Cropland (Not Planted)	6.46
Other Land in Farms	0.12
Summer Fallow (Other Cropland)	4.60

Table 4-11. Annual Estimated Total Soil Loss in Subwatershed 05130204010.

4.2.B. 05130204020.

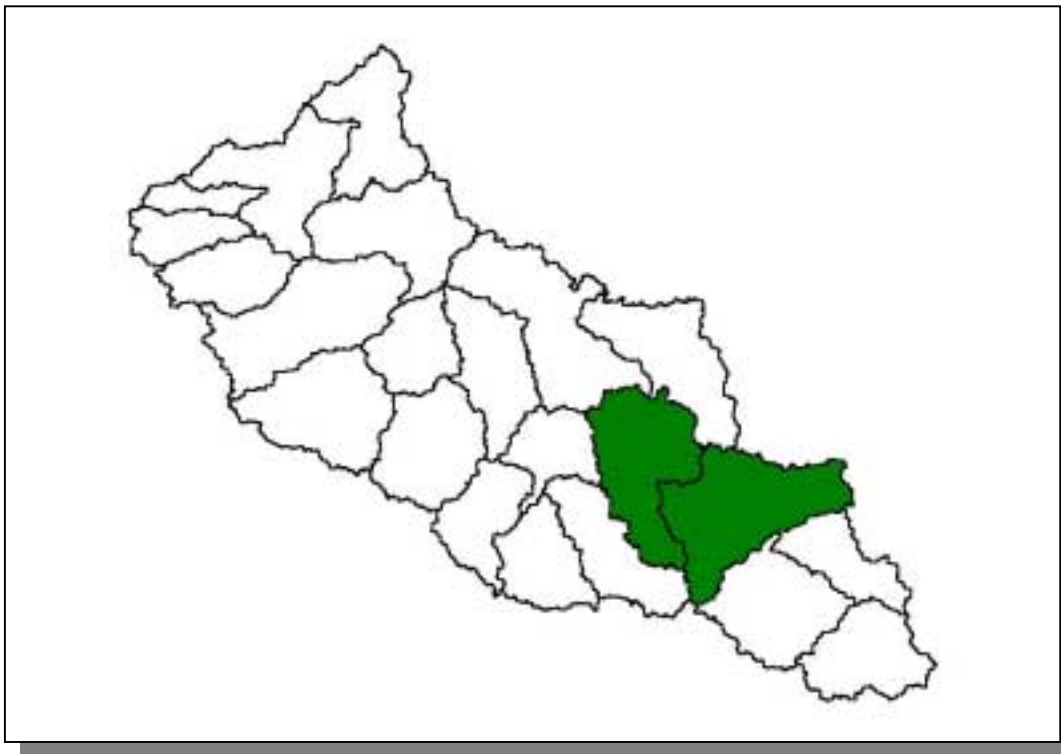


Figure 4-7. Location of Subwatershed 05130204020. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.B.i. General Description.

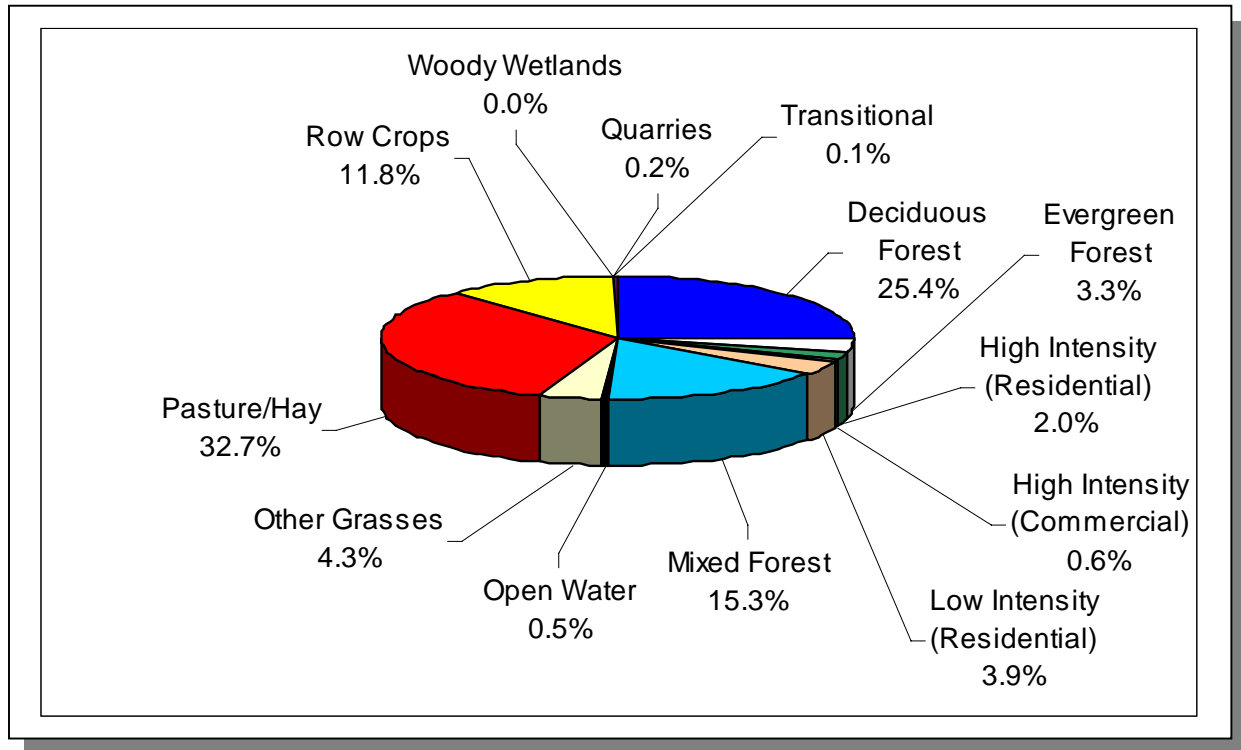


Figure 4-8. Land Use Distribution in Subwatershed 05130204020. More information is provided in Harpeth-Appendix IV.

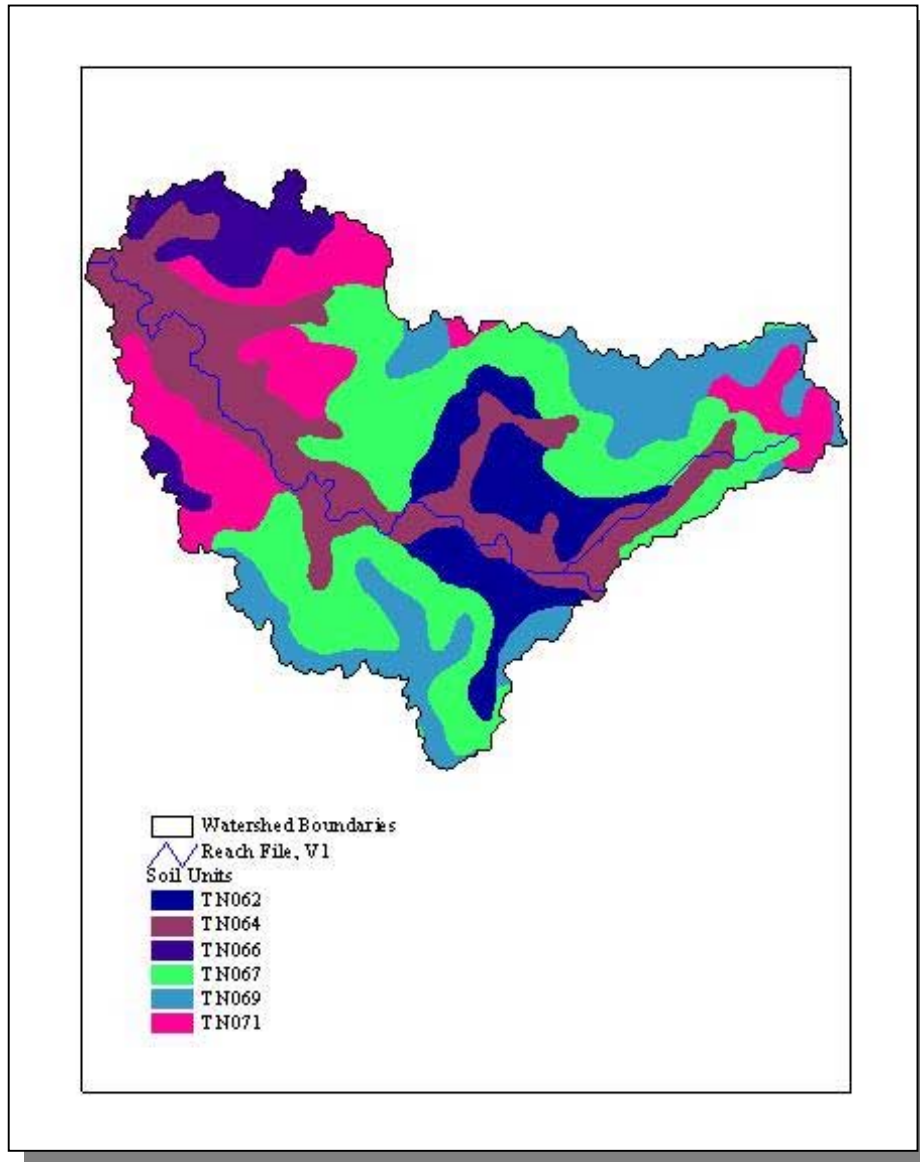


Figure 4-9. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204020.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN062	0.00	C	0.98	4.40	Clayey Loam	0.26
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN066	0.00	B	2.62	4.75	Loam	0.28
TN067	2.00	C	2.69	5.51	Silty Loam	0.35
TN069	0.00	C	2.06	5.36	Loam	0.34
TN071	0.00	C	2.37	5.70	Silty Loam	0.33

Table 4-12. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204020. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Williamson	81,021	111,453	19.75	16,005	22,016	37.6

Table 4-13. Population Estimates in Subwatershed 05130204020.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Brentwood	Williamson	16,392	5,514	3,195	2,319	0
Franklin	Williamson	20,098	8,748	8,458	282	8
Totals		36,490	14,262	11,653	2,601	8

Table 4-14. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204020.

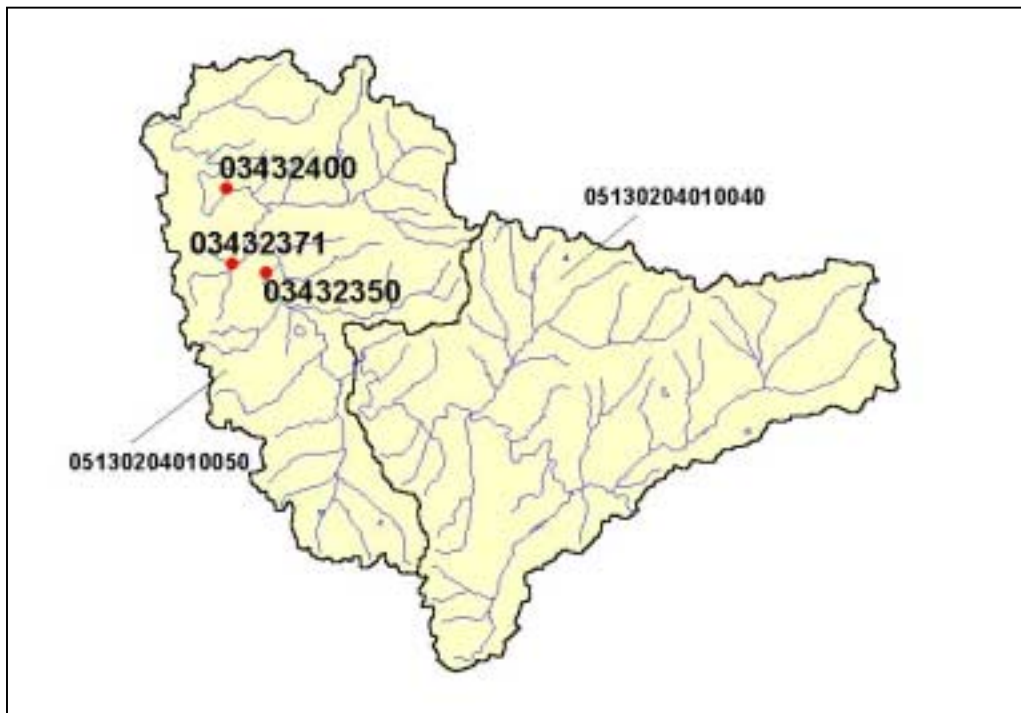


Figure 4-10. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204020. Subwatershed 05130204010040 and 05130204010050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.



Figure 4-11. Location of STORET Monitoring Sites in Subwatershed 05130204020. Subwatershed 05130204010040 and 05130204010050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.B.ii. Point Source Contributions.

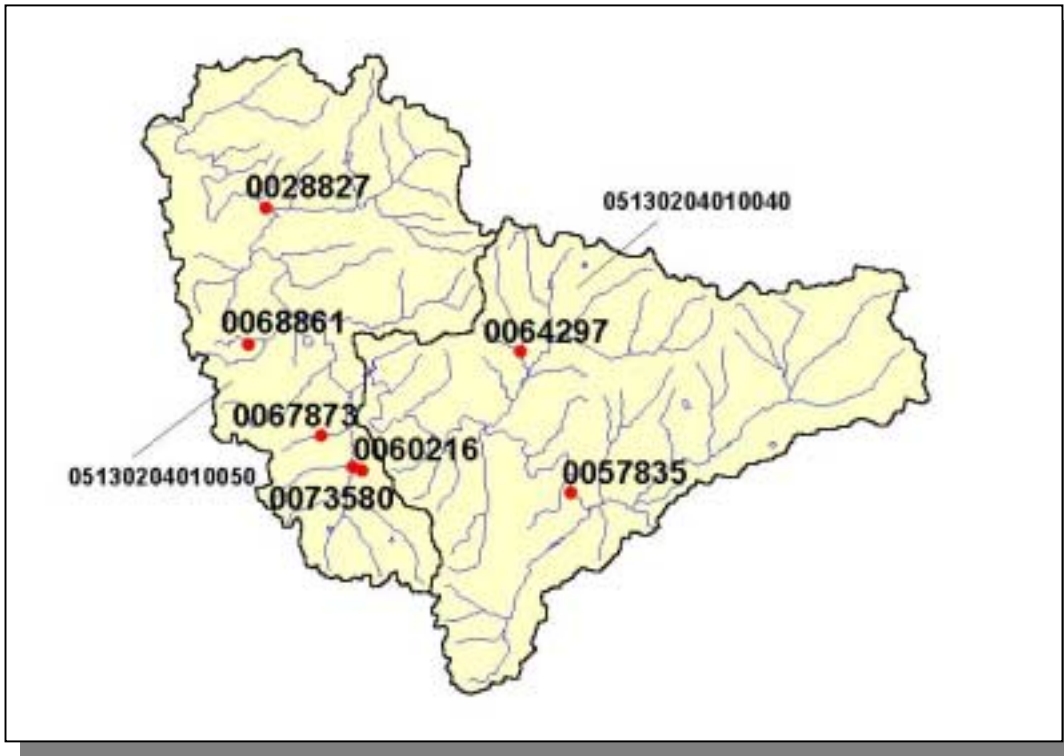


Figure 4-12. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204020. Subwatershed 05130204010040, and 05130204010050 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-13. Location of Active Mining Sites in Subwatershed 05130204020. Subwatersheds 05130204010040 and 05130204010050 are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-14. Location of Concentrated Animal Feeding Operation (CAFO) Sites in Subwatershed 05130204020. Subwatersheds 05130204010040 and 05130204010050 are shown for reference. More information is provided in Harpeth-Appendix IV.

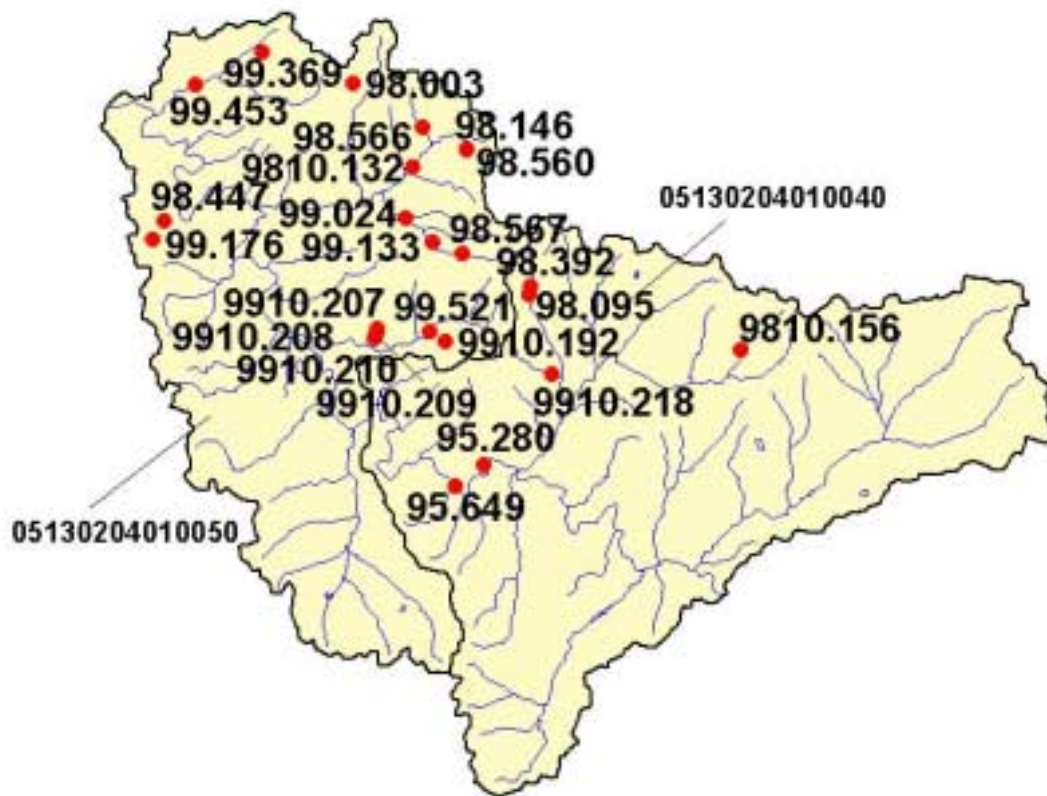


Figure 4-15. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204020. Subwatershed 05130204010040 and 05130204010050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.



Figure 4-16. Location of Wetland Impact and Mitigation Sites in Subwatershed 05130204020. Impact (Blue Triangle) and mitigation (Red Circle) sites are from ARAP database. Subwatershed 05130204010040 and 05130204010050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.B.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There are four NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 05130204020:

- TN0028827 discharges to the Harpeth River @ RM 85.2
- TN0057835 discharges to the Harpeth River
- TN0060216 discharges to Fivemile Creek @ RM 5.2
- TN0067873 discharges to an Unnamed Tributary of Fivemile Creek @RM 1.1
- TN0073580 discharges to Fivemile Creek @ RM 2.2

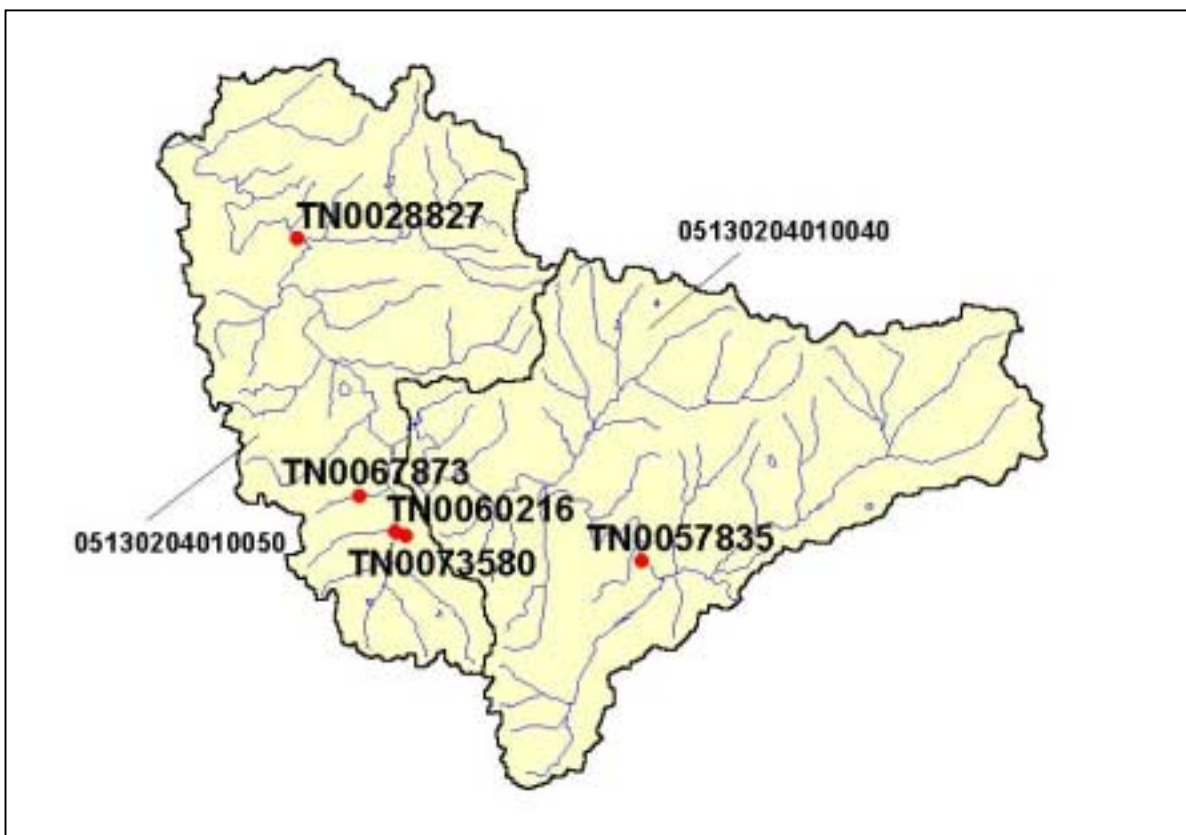


Figure 4-17. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 05130204020. Subwatershed 05130204010040 and 05130204010050 boundaries are shown for reference. The names of facilities are provided in Harpeth-Appendix IV.

PERMIT #	7Q10	1Q20	30Q2	QDESIGN	QLTA
TN0028827	0	0	0.81	5.5	4.61
TN0057835	0	0	0	0.02	
TN0060216	0	0	0	0.03	
TN0067873	0	0	0	0.01	
TN0073580	0	0	0		0.00028

Table 4-15. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204020. Data are in million gallons per day (MGD). 30Q2 data were calculated using the equation method (TN0028827) or using data in Flow Duration and Low Flows of Tennessee Streams Through 1992 (TN0057835, TN0060216, TN 0067873, and TN0073580).

PERMIT #	CBOD ₅	NH ₃	FECAL	METAL	WET	STREAM SAMPLE
TN0028827	X	X	X		X	X
TN0057835	X	X	X			
TN0060216	X	X	X		X	
TN0067873	X	X	X			
TN0073580			X	X		

Table 4-16. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 05130204020.

PERMIT #	BENZENE	Cd	Pb
TN0073580	Report	Report	0.1

Table 4-17. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies on the 1998 303(d) List in Subwatershed 05130204020.

4.2.B.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Chickens	Hogs	Sheep
5,448	10,518	457	11	600	153

Table 4-18. Summary of Livestock Count Estimates in Subwatershed 05130204020. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Williamson	142	142	1	3.3

Table 4-19. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204020.

CROPS	TONS/ACRE/YEAR
Legume Grass (Hayland)	0.14
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.31
Non Agricultural Land Use	0.00
Corn (Row Crops)	5.39
Soybeans (Row Crops)	3.34
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Grass (Hayland)	0.11
Legume (Hayland)	0.98
Other Cropland not Planted	6.46
Grass (Pastureland)	0.58
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Other Land in Farms	0.12
Conservation Reserve Program Land	0.12
Legume (Pastureland)	0.33

Table 4-20. Annual Estimated Total Soil Loss in Subwatershed 05130204020.

4.2.C. 05130204030.

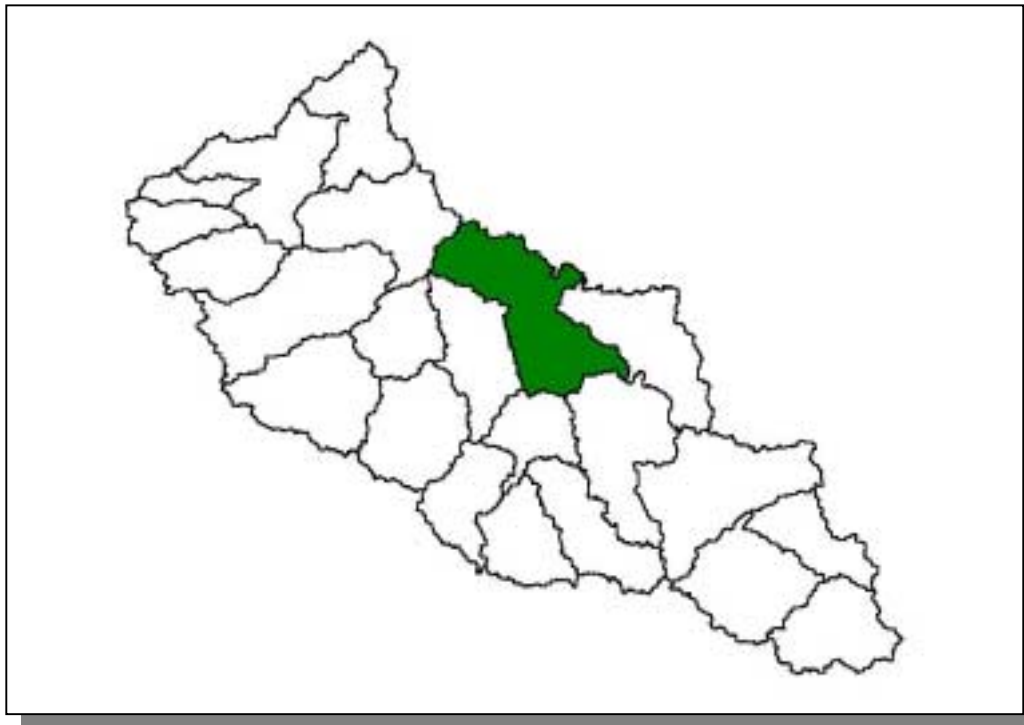


Figure 4-18. Location of Subwatershed 05130204030. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.C.i. General Description.

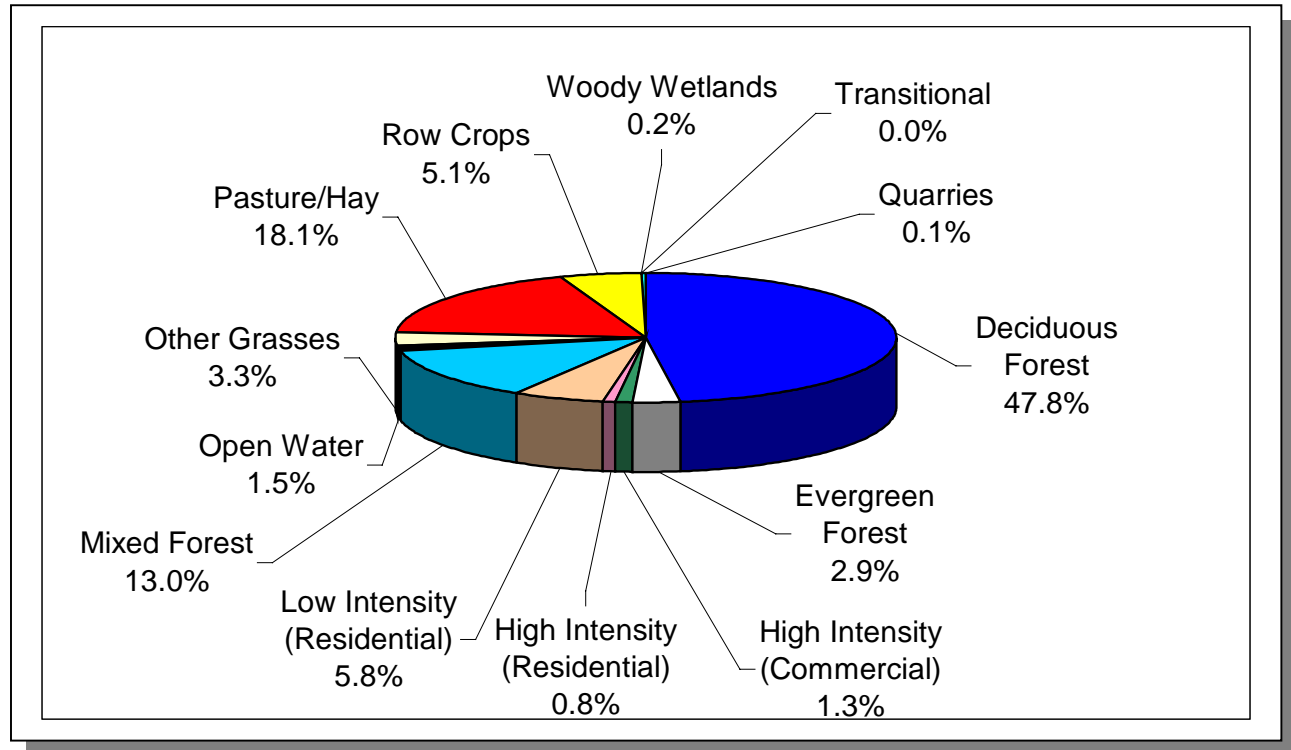


Figure 4-19. Land Use Distribution in Subwatershed 05130204030. More information is provided in Harpeth-Appendix IV.

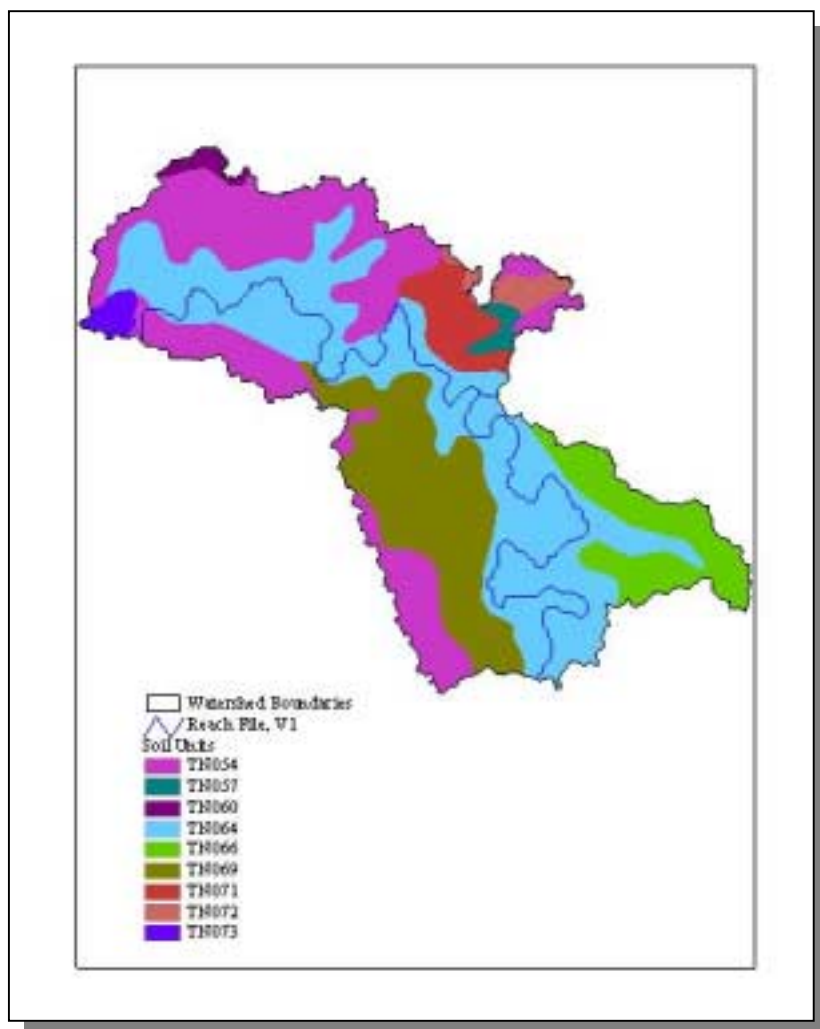


Figure 4-20. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204030.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	C	3.04	4.84	Loam	0.32
TN057	0.00	C	1.14	5.01	Clayey Loam	0.33
TN060	5.00	B	1.30	5.32	Silty Loam	0.39
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN066	0.00	B	2.62	4.75	Loam	0.28
TN069	0.00	C	2.06	5.36	Loam	0.34
TN071	0.00	C	2.37	5.70	Silty Loam	0.33
TN072	0.00	B	3.70	5.57	Loam	0.31
TN073	0.00	B	2.97	5.21	Loam	0.34

Table 4-21. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204030. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Cheatham	27,140	34,402	2.64	717	909	26.8
Davidson	510,784	535,032	5.55	28,351	29,697	4.7
Williamson	81,021	111,453	4.51	3,655	5,028	37.6
Totals	618,945	680,887		32,723	35,634	8.9

Table 4-22. Population Estimates in Subwatershed 05130204030.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Nashville-Davidson Co.	Davidson	488,518	219,521	203,640	15,576	305
Pegram	Cheatham	1,371	535	20	510	5
Totals		489,889	220,056	203,660	16,086	310

Table 4-23. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204030.



Figure 4-21. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204030. More information is provided in Harpeth-Appendix IV.

4.2.C.ii. Point Source Contributions.

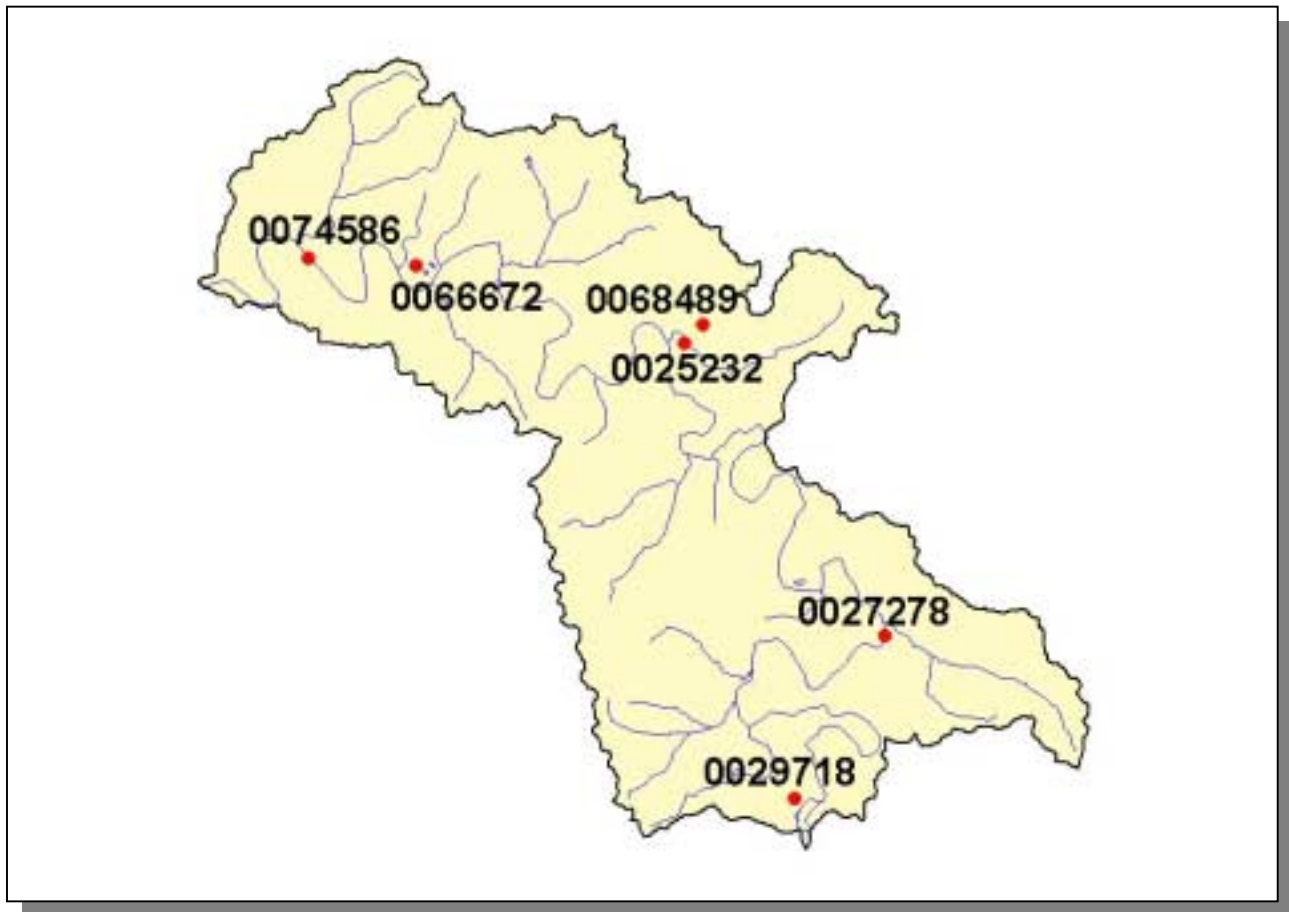


Figure 4-22. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204030. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-23. Location of Active Mining Sites in Subwatershed 05130204030. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

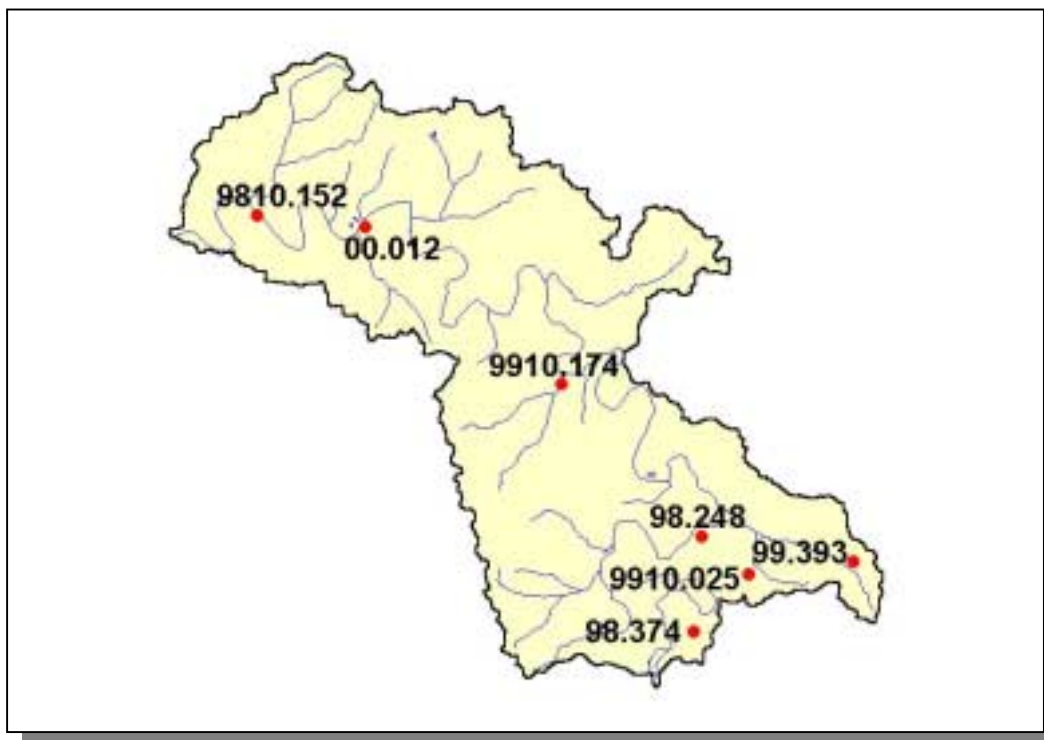


Figure 4-24. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204030.
More information is provided in Harpeth-Appendix IV.

4.2.C.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Chickens	Hogs	Sheep
1,108	3,020	93	<5	146	31

Table 4-24. Summary of Livestock Count Estimates in Subwatershed 05130204030.
According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Davidson	108.7	108.1	2.3	9.7
Williamson	142.0	142	1	3.3
Totals	368.9	368.3	5.6	21.4

Table 4-25. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204030.

CROPS	TONS/ACRE/YEAR
Soybeans (Row Crops)	9.50
Grass (Hayland)	0.14
Legume (Hayland)	0.84
Grass (Pastureland)	0.53
Grass, Forbs, Legumes (Mixed Pasture)	0.53
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.31
Corn (Row Crops)	6.14
Other Cropland Not Planted	5.05
Legume Grass (Hayland)	0.18
All Other Close Grown Cropland	2.26
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Other Land in Farms	0.12
Conservation Reserve Program Land	0.12
Legume (Pastureland)	0.33

Table 4-26. Annual Estimated Total Soil Loss in Subwatershed 05130204030.

4.2.D. 05130204040.

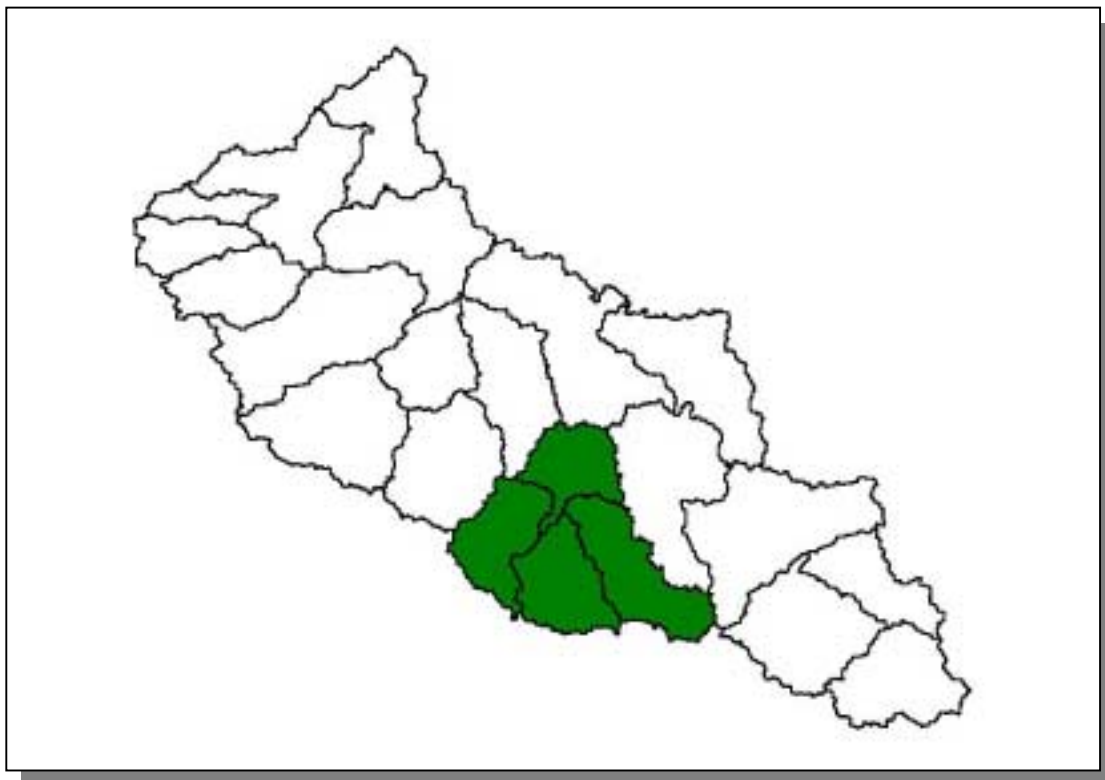


Figure 4-25. Location of Subwatershed 05130204040. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.D.i. General Description.

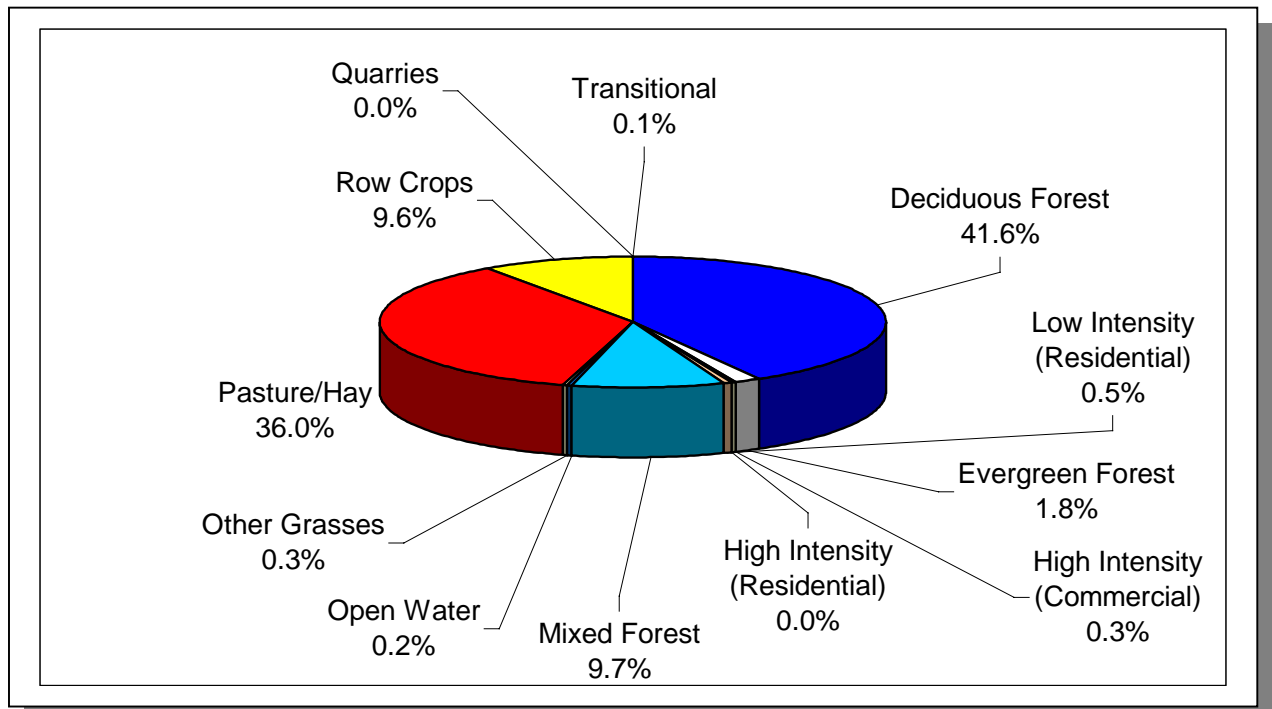


Figure 4-26. Land Use Distribution in Subwatershed 05130204040. More information is provided in Harpeth-Appendix IV.

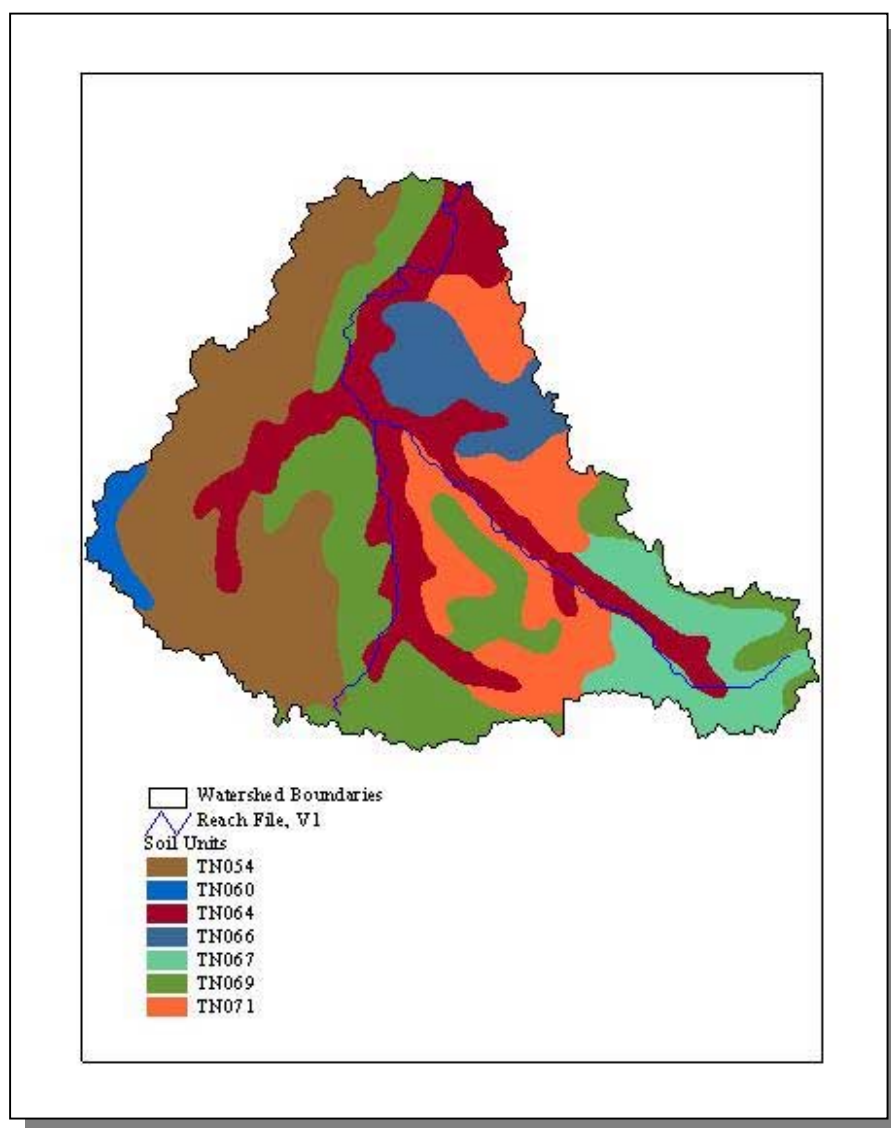


Figure 4-27. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204040.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	C	3.04	4.84	Loam	0.32
TN060	5.00	B	1.30	5.32	Silty Loam	0.39
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN066	0.00	B	2.62	4.75	Loam	0.28
TN067	2.00	C	2.69	5.51	Silty Loam	0.35
TN069	0.00	C	2.06	5.36	Loam	0.34
TN071	0.00	C	2.37	5.70	Silty Loam	0.33

Table 4-27. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204040. More information is provided in Harpeth-Appendix IV.

County	COUNTY POPULATION		Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED		% CHANGE
	1990	1997 Est.		1990	1997	
Maury	54,812	68,268	0.02	13	17	30.8
Williamson	81,021	111,453	20.21	16,374	22,524	37.6
Totals	135,833	179,721		16,387	22,541	37.6

Table 4-28. Population Estimates in Subwatershed 05130204040.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Franklin	Williamson	20,098	8,748	8,458	282.0	8.0
Spring Hill	Williamson	1,458	578	351	222.0	5.0
Totals		21,556	9,326	8,809	504.0	13.0

Table 4-29. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204040.



Figure 4-28. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204040. Subwatershed 05130204020010, 05130204020020, 05130204020030, and 05130204020040 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

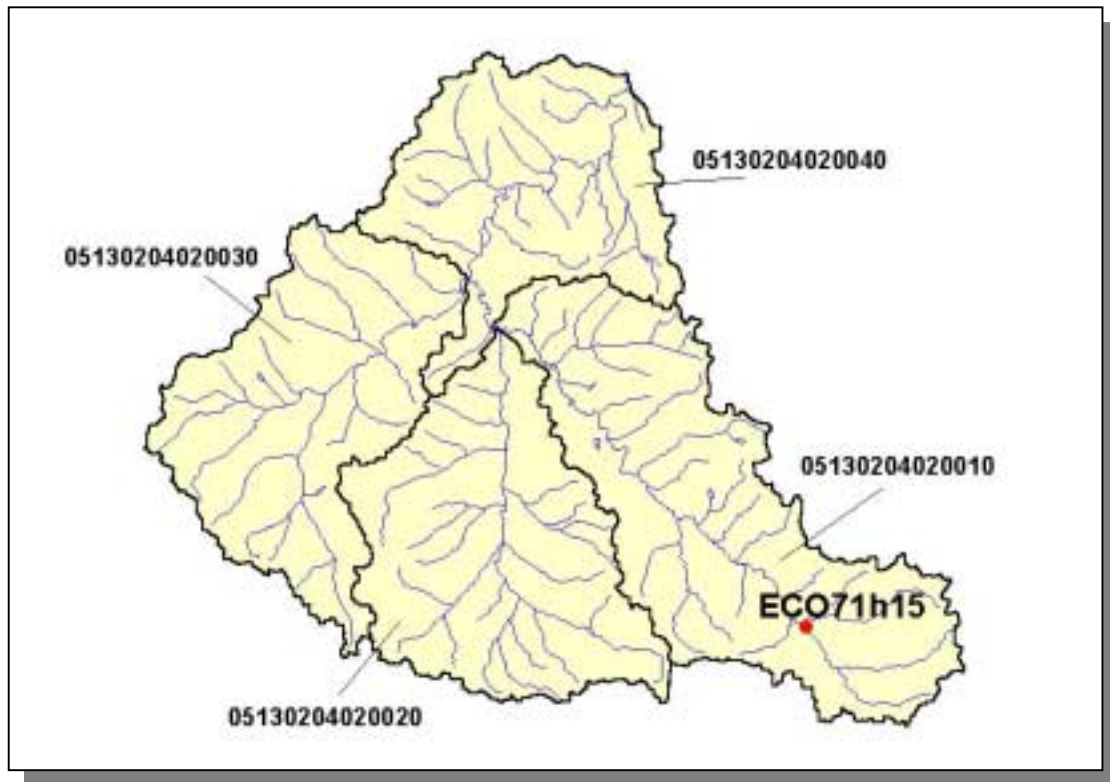


Figure 4-29. Location of STORET Monitoring Sites in Subwatershed 05130204040. Subwatershed 05130204020010, 05130204020020, 05130204020030, and 05130204020040 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.D.ii. Point Source Contributions.



Table 4-30. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204040. Subwatershed 05130204020010, 05130204020020, 05130204020030, and 05130204020040 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-30. Location of Active Mining Sites in Subwatershed 05130204040. Subwatersheds 05130204020010, 05130204020020, 05130204020030, and 05130204020040 are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

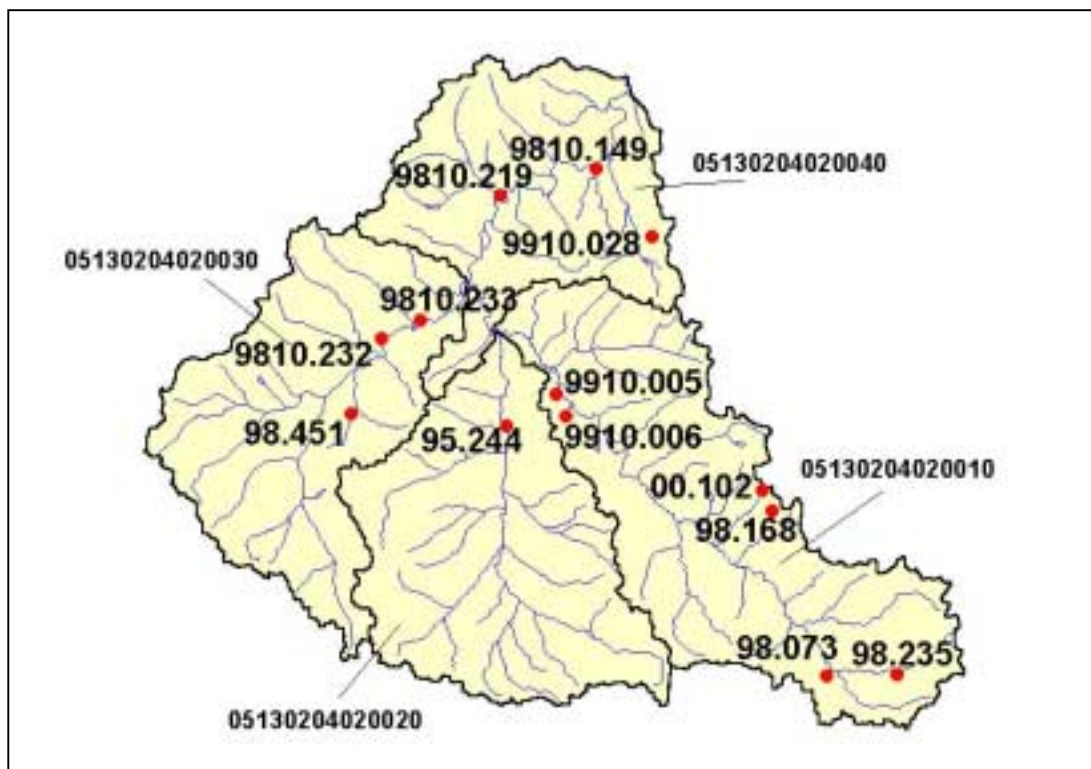


Figure 4-31. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204040. Subwatershed 05130204020010, 05130204020020, 05130204020030, and 05130204020040 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.D.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Milk Cow	Cattle	Chickens	Hogs	Sheep
6,148	516	11,871	12	677	172

Table 4-31. Summary of Livestock Count Estimates in Subwatershed 05130204040. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Williamson	142	142	1	3.3

Table 4-32. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204040.

CROPS	TONS/ACRE/YEAR
Legume Grass (Hayland)	0.14
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.31
Non Agricultural Land Use	0.00
Corn (Row Crops)	5.39
Soybeans (Row Crops)	3.35
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Grass (Hayland)	0.11
Legume (Hayland)	0.98
Other Cropland not Planted	6.46
Grass (Pastureland)	0.58
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Other Land in Farms	0.12
Conservation Reserve Program Land	0.12
Legume (Pastureland)	0.33
All Other Row Crops	11.45

Table 4-33. Annual Soil Loss in Subwatershed 05130204040.

4.2.E. 05130204050.

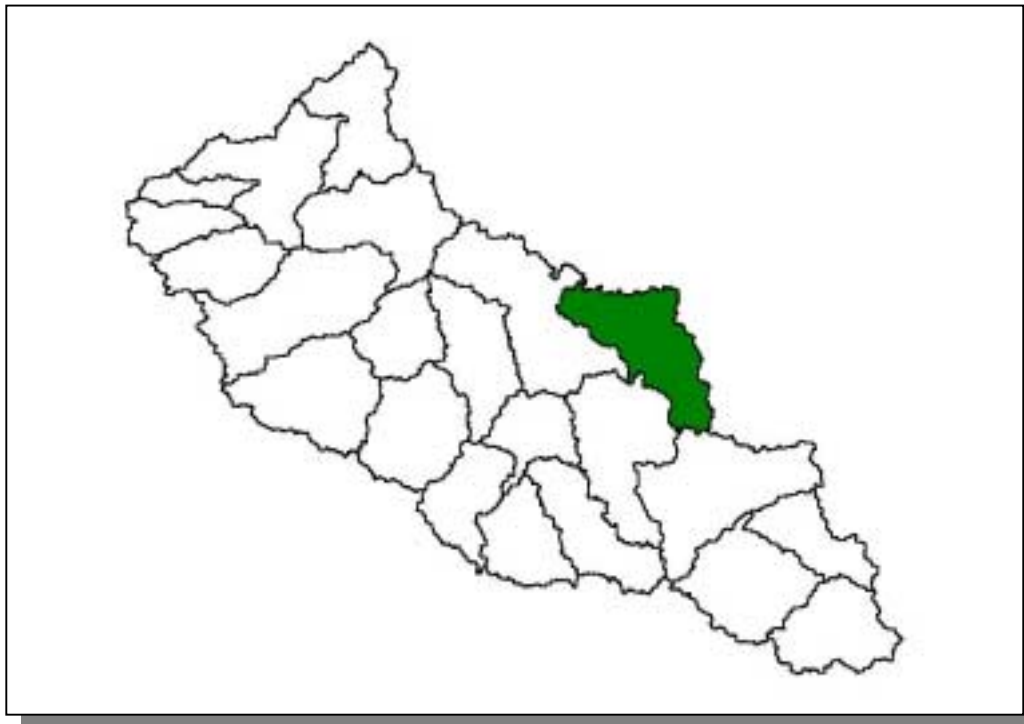


Figure 4-32. Location of Subwatershed 05130204050. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.E.i. General Description.

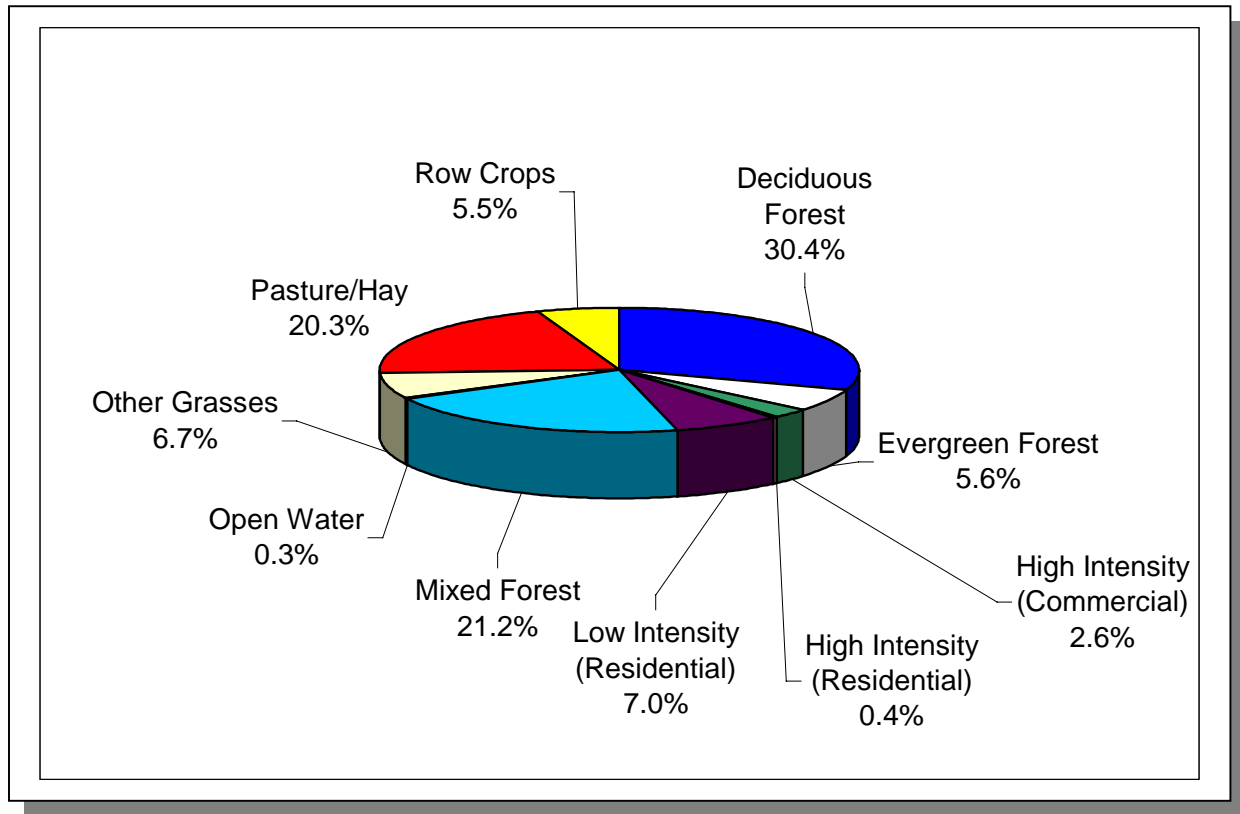


Figure 4-33. Land Use Distribution in Subwatershed 05130204050. More information is provided in Harpeth-Appendix IV.

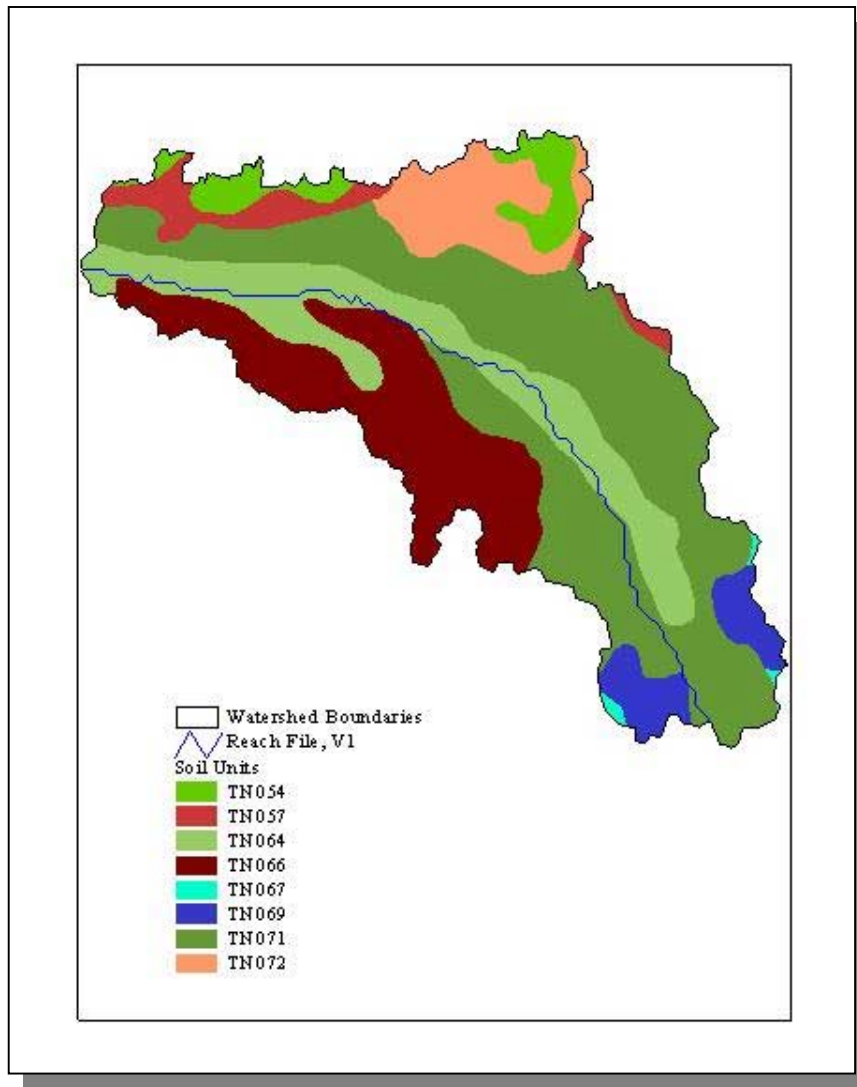


Figure 4-34. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204050.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hr)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	C	3.04	4.84	Loam	0.32
TN057	0.00	C	1.14	5.01	Clayey Loam	0.33
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN066	0.00	B	2.62	4.75	Loam	0.28
TN067	2.00	C	2.69	5.51	Silty Loam	0.35
TN069	0.00	C	2.06	5.36	Loam	0.34
TN071	0.00	C	2.37	5.70	Silty Loam	0.33
TN072	0.00	B	3.70	5.57	Loam	0.31

Table 4-34. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204050. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Davidson	510,784	535,032	2.39	12,222	12,802	4.7
Williamson	81,021	111,453	5.95	4,817	6,626	37.6
Totals	591,805	646,485		17,039	19,428	14.0

Table 4-35. Population Estimates in Subwatershed 05130204050.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Brentwood	Williamson	16,392	5,514	3,195	2,319	0
Franklin	Williamson	20,098	8,748	8,458	282	8
Forest Hills	Davidson	4,240	1,601	625	976	0
Nashville-Davidson	Davidson	488,518	219,521	203,640	15,576	305
Oak Hill	Davidson	4,301	1,788	990	798	0
Totals		533,549	237,172	216,908	19,951	313

Table 4-36. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204050.



Figure 4-35. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204050. More information is provided in Harpeth-Appendix IV.

4.2.E.ii. Point Source Contributions.

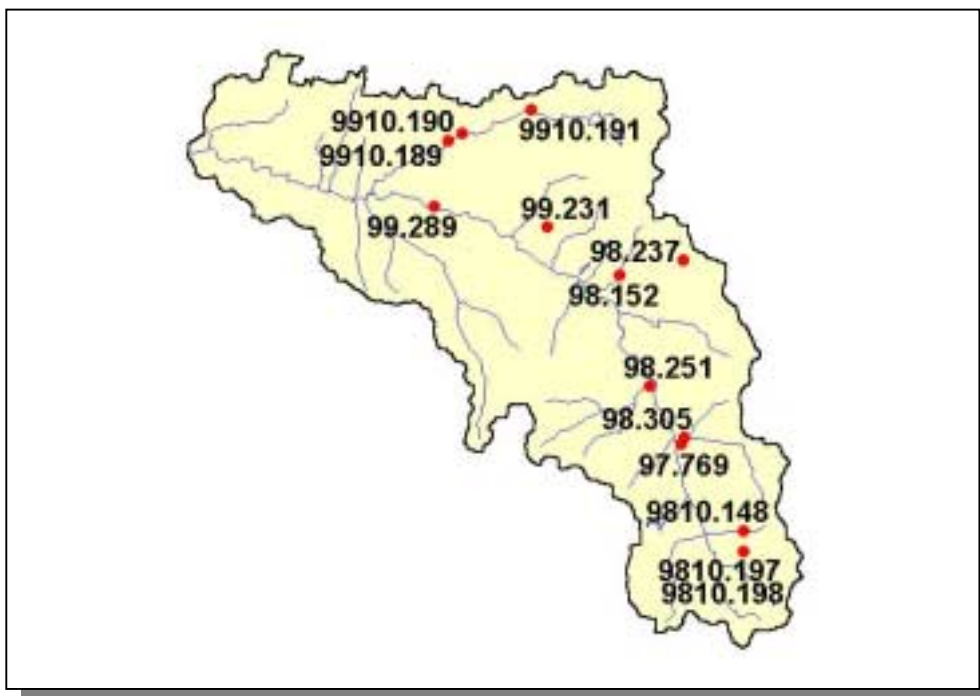


Figure 4-36. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204050. More information is provided in Harpeth-Appendix IV.

4.2.E.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Milk Cow	Cattle	Chickens	Hogs	Sheep
1,219	102	2,599	<5	136	34

Table 4-37. Summary of Livestock Count Estimates in Subwatershed 05130204050.
According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Davidson	108.7	108.1	2.3	9.7
Williamson	142.0	142.0	1.0	3.3
Totals	250.7	250.1	3.3	13.0

Table 4-38. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 05130204050.

CROPS	TONS/ACRE/YEAR
Soybeans (Row Crops)	6.46
Grass (Pastureland)	0.54
Non Agricultural Land Use	0.00
All Other Close Grown Cropland	2.26
Grass (Hayland)	0.10
Grass, Forbs, Legumes (Mixed Pasture)	0.45
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.32
Legume Grass (Hayland)	0.14
Forest Land (Grazed)	0.00
Corn (Row Crops)	5.39
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Legume (Hayland)	0.98
Other Cropland not Planted	6.46
Other Land in Farms	0.12
Conservation Reserve Program Land	0.12
Legume (Pastureland)	0.33

Table 4-39. Annual Estimated Soil Loss in Subwatershed 05130204050.

4.2.F. 05130204060

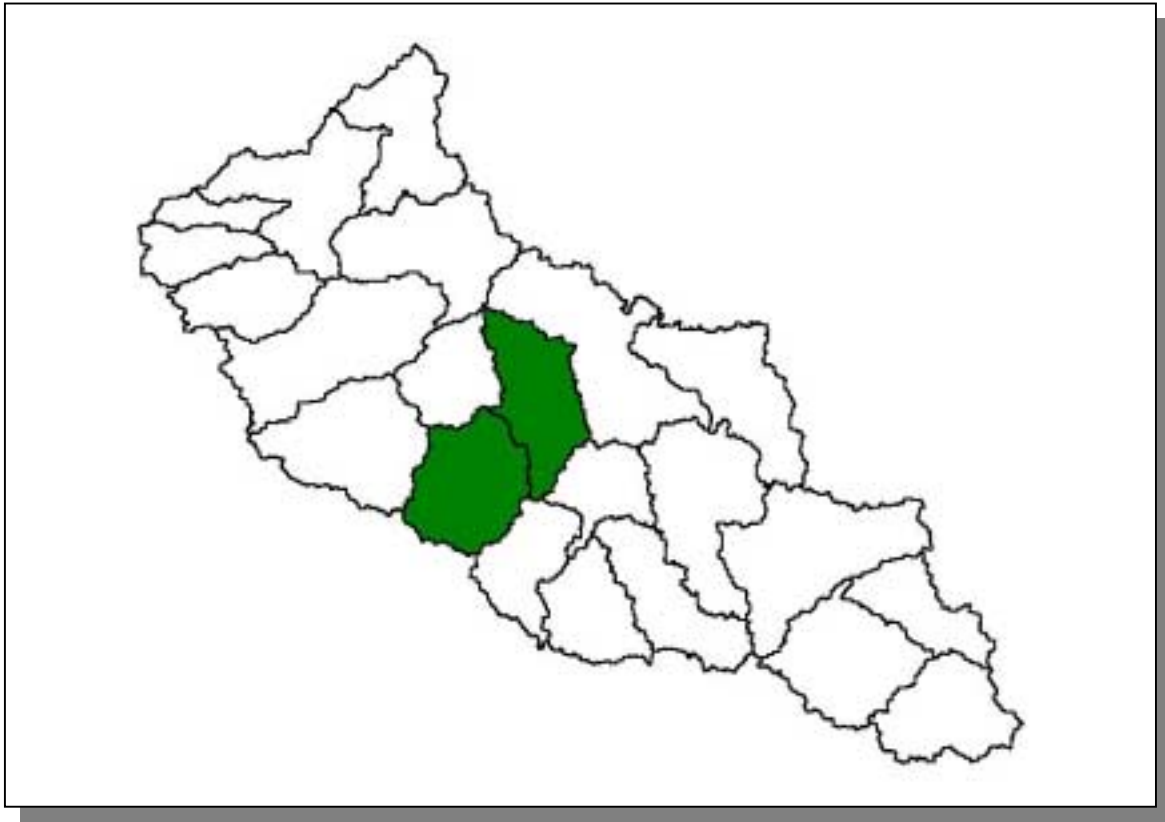


Figure 4-37. Location of Subwatershed 05130204060. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.F.i. General Description.

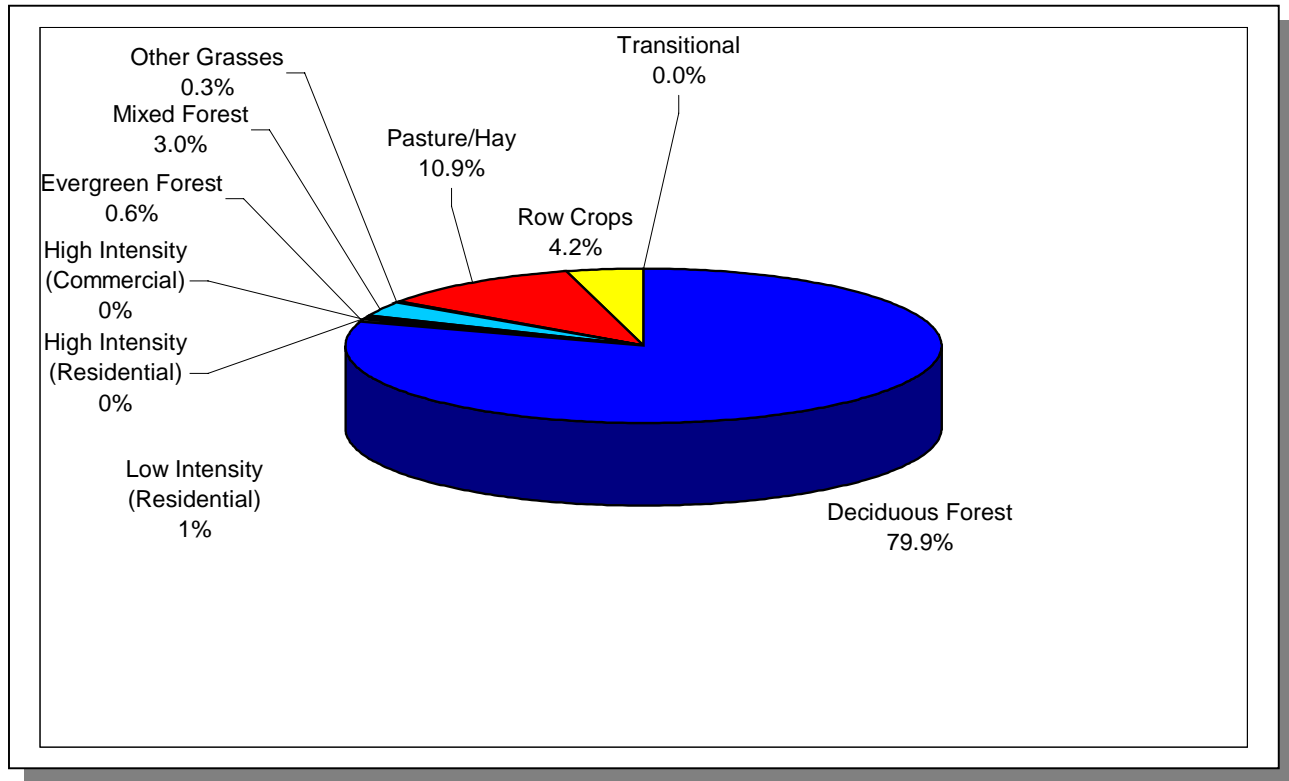


Figure 4-38. Land Use Distribution in Subwatershed 05130204060. More information is provided in Harpeth-Appendix IV.

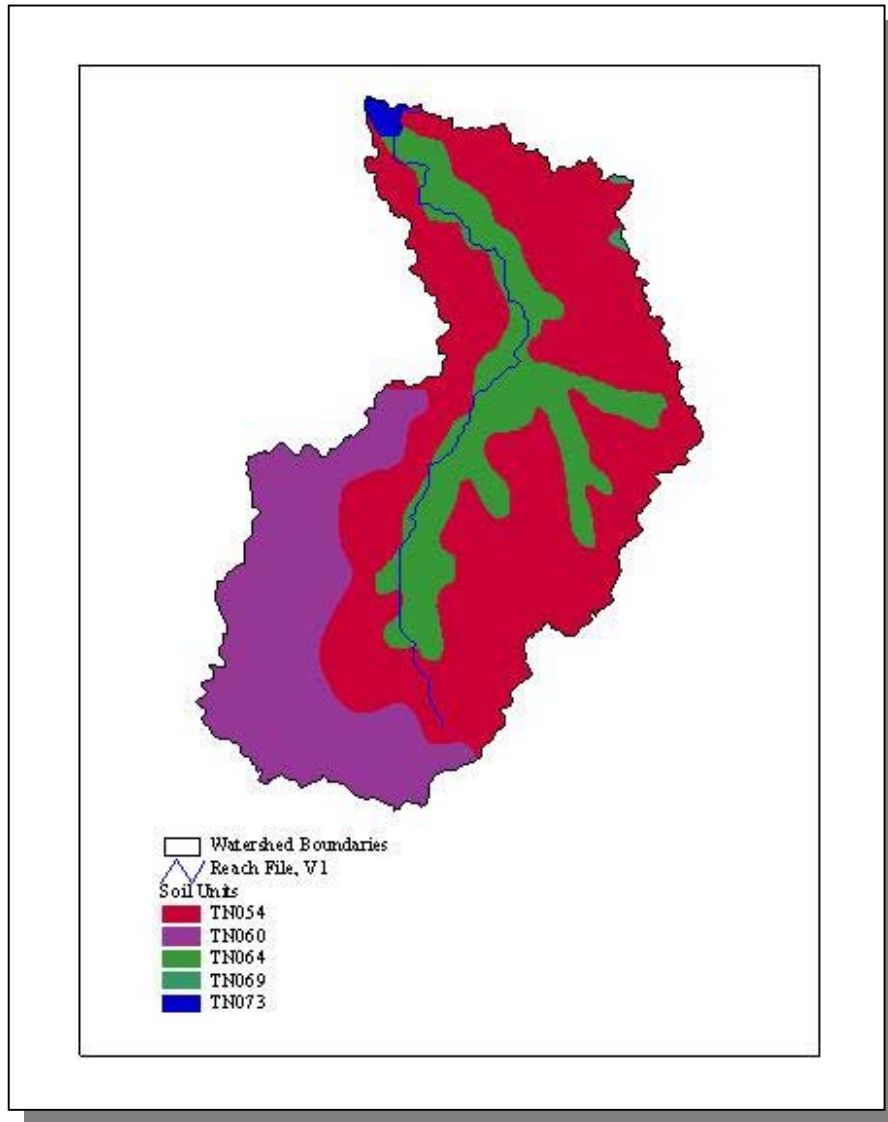


Figure 4-39. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204060.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hr)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	C	3.04	4.84	Loam	0.32
TN060	5.00	B	1.30	5.32	Silty Loam	0.39
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN069	0.00	C	2.06	5.36	Loam	0.34
TN073	0.00	B	2.97	5.21	Loam	0.34

Table 4-40. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204060. More information is provided in Harpeth-Appendix IV.

County	TOTAL COUNTY POPULATION		Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED		PERCENT CHANGE
	1990	1997 Est.		1990	1997	
Cheatham	27,140	34,402	1.46	397	503	26.7
Davidson	510,784	535,032	2.59	13,232	13,860	4.7
Williamson	81,021	111,453	10.87	8,805	12,112	37.6
Totals	618,945	680,887		22,434	26,475	18.0

Table 4-41. Population Estimates in Subwatershed 05130204060.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Fairview	Williamson	4,210	1,479	833	640	6
Nashville-Davidson	Davidson	488,518	219,521	203,640	15,576	305
Pegram	Cheatham	1,371	535	20	510	5
Totals		494,099	211,535	204,493	16,726	316

Table 4-42. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204060.

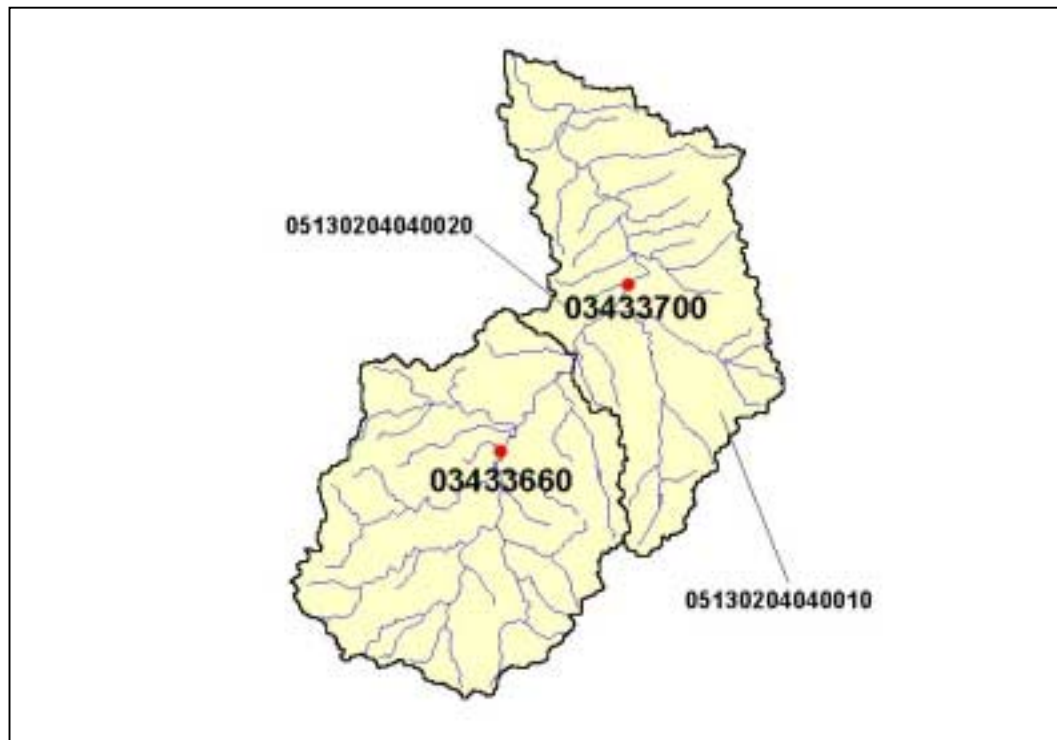


Figure 4-40. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204060. Subwatershed 05130204040010 and 05130204040020 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

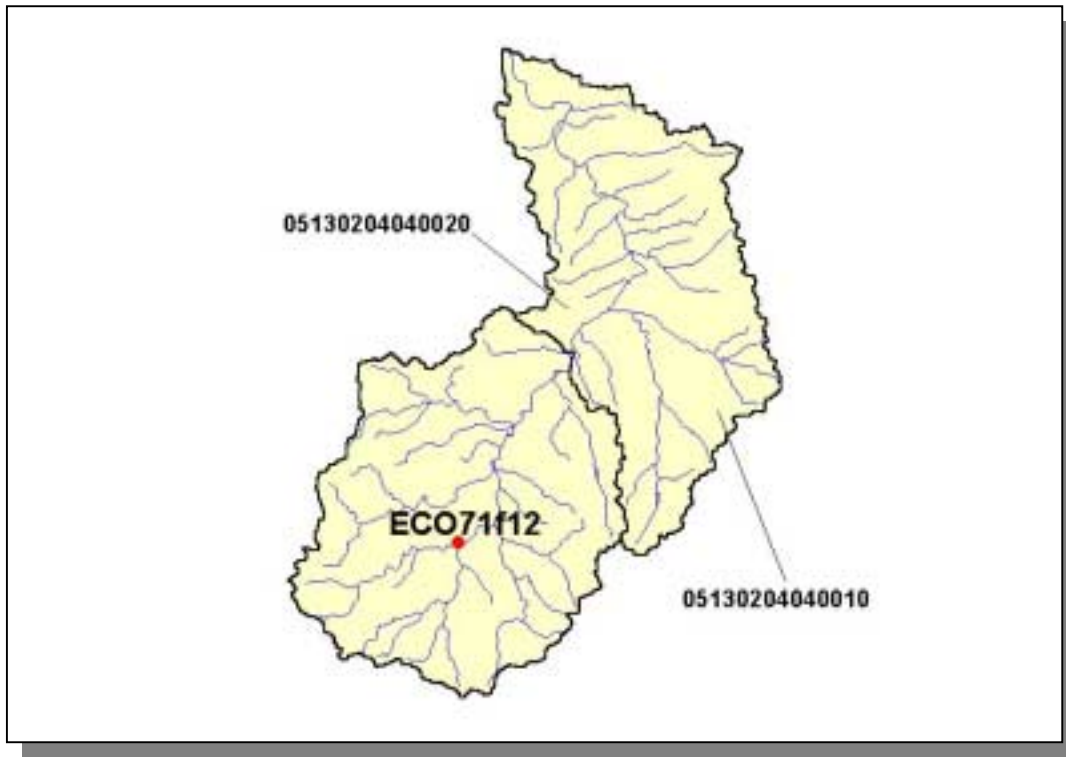


Figure 4-41. Location of STORET Monitoring Sites in Subwatershed 05130204060. Subwatershed 05130204040010 and 05130204040020 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.F.ii. Point Source Contributions.

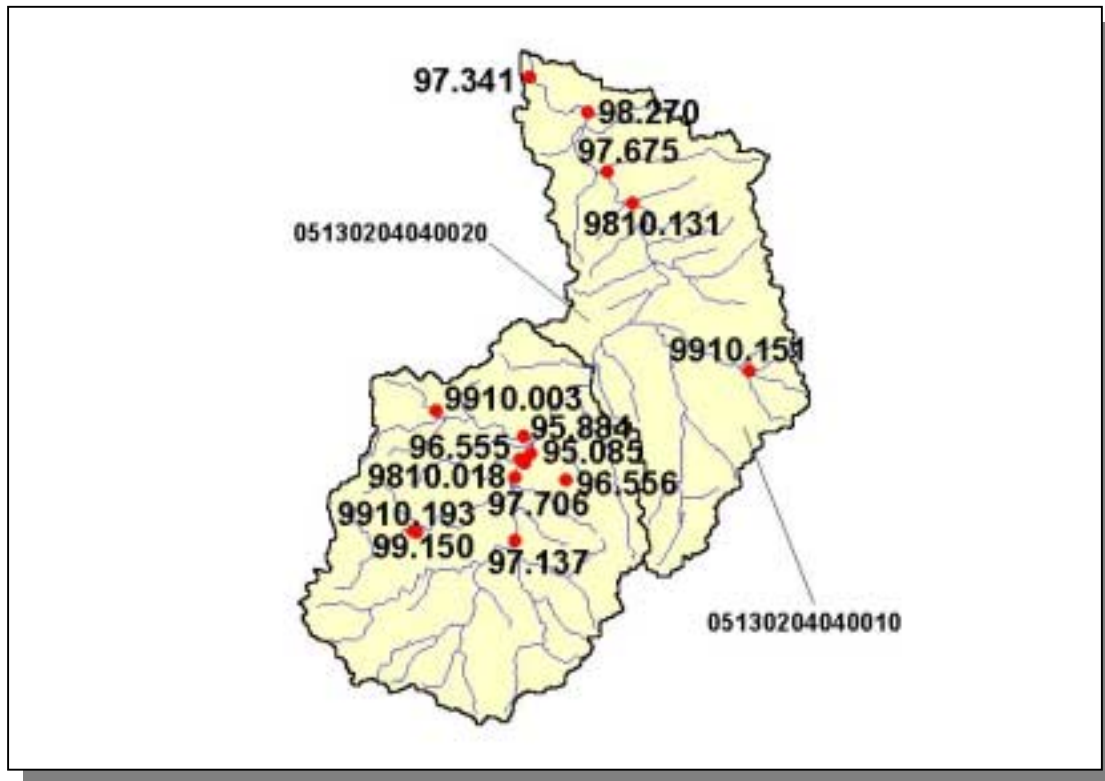


Figure 4-42. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204060. Subwatershed 05130204040010 and 05130204040020 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.F.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Milk Cow	Cattle	Chickens	Hogs	Sheep
947	79	2,422	<5	133	27

Table 4-43. Summary of Livestock Count Estimates in Subwatershed 05130204060. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Davidson	108.7	108.1	2.3	9.7
Williamson	142.0	142.0	1.0	3.3
Totals	368.9	368.3	5.6	21.4

Table 4-44. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204060.

CROPS	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Soybeans (Row Crops)	5.64
Grass (Hayland)	0.13
Legume (Hayland)	0.94
Grass (Pastureland)	0.56
Grass, Forbs, Legumes (Mixed (Pasture)	0.46
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.31
Corn (Row Crops)	5.60
Other Cropland not Planted	6.07
Legume Grass (Hayland)	0.15
All Other Close Grown Cropland	2.26
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Other Land in Farms	0.12
Conservation Reserve Program Land	0.12
Legume (Pastureland)	0.33

Table 4-45. Annual Estimated Total Soil Loss in Subwatershed 05130204060.

4.2.G. 05130204070.

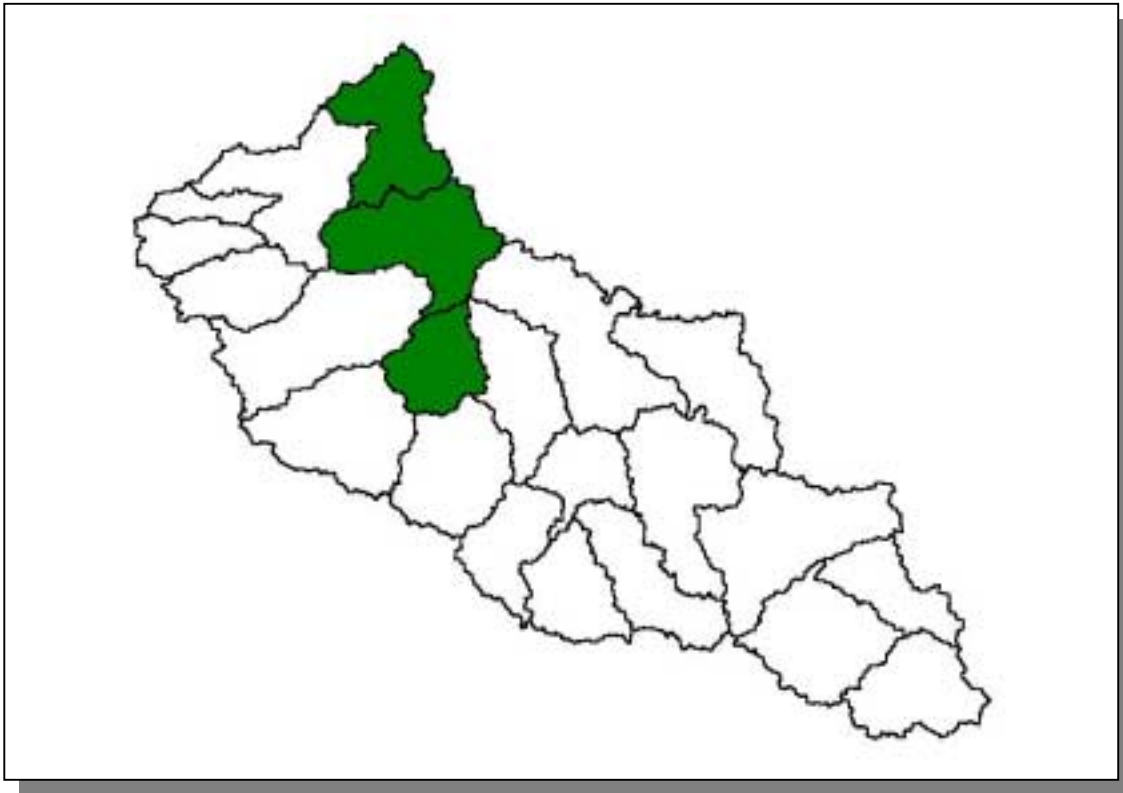


Figure 4-43. Location of Subwatershed 05130204070. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.G.i. General Description.

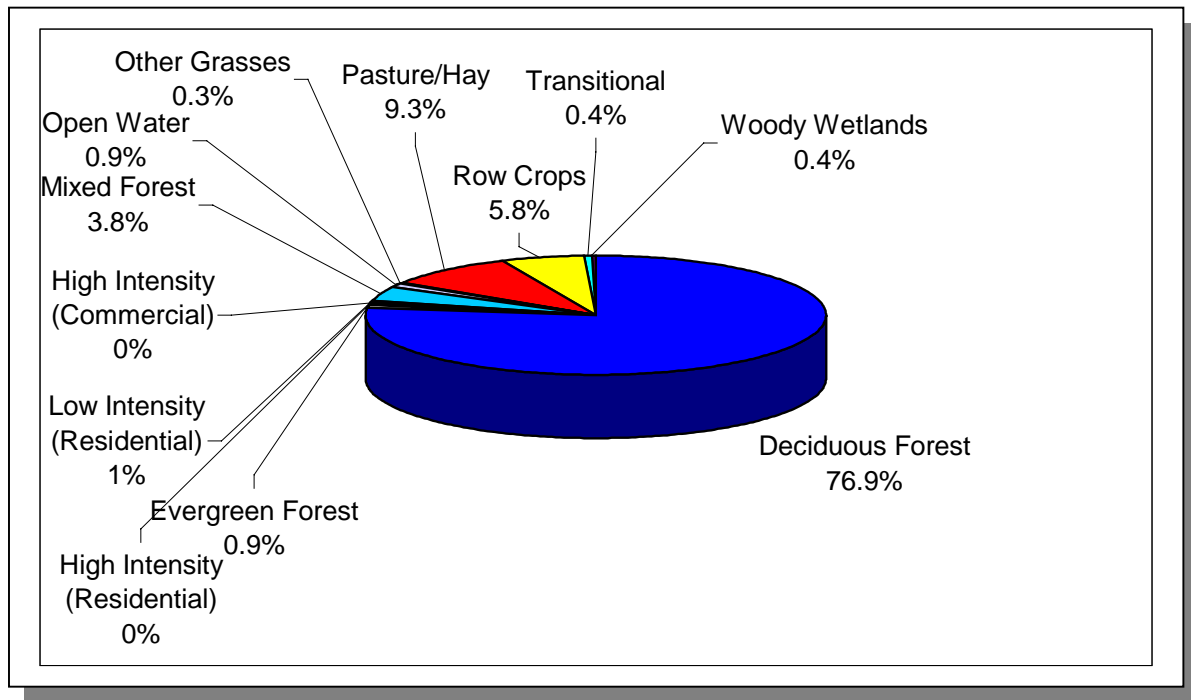


Figure 4-44. Land Use Distribution in Subwatershed 05130204070. More information is provided in Harpeth-Appendix IV.

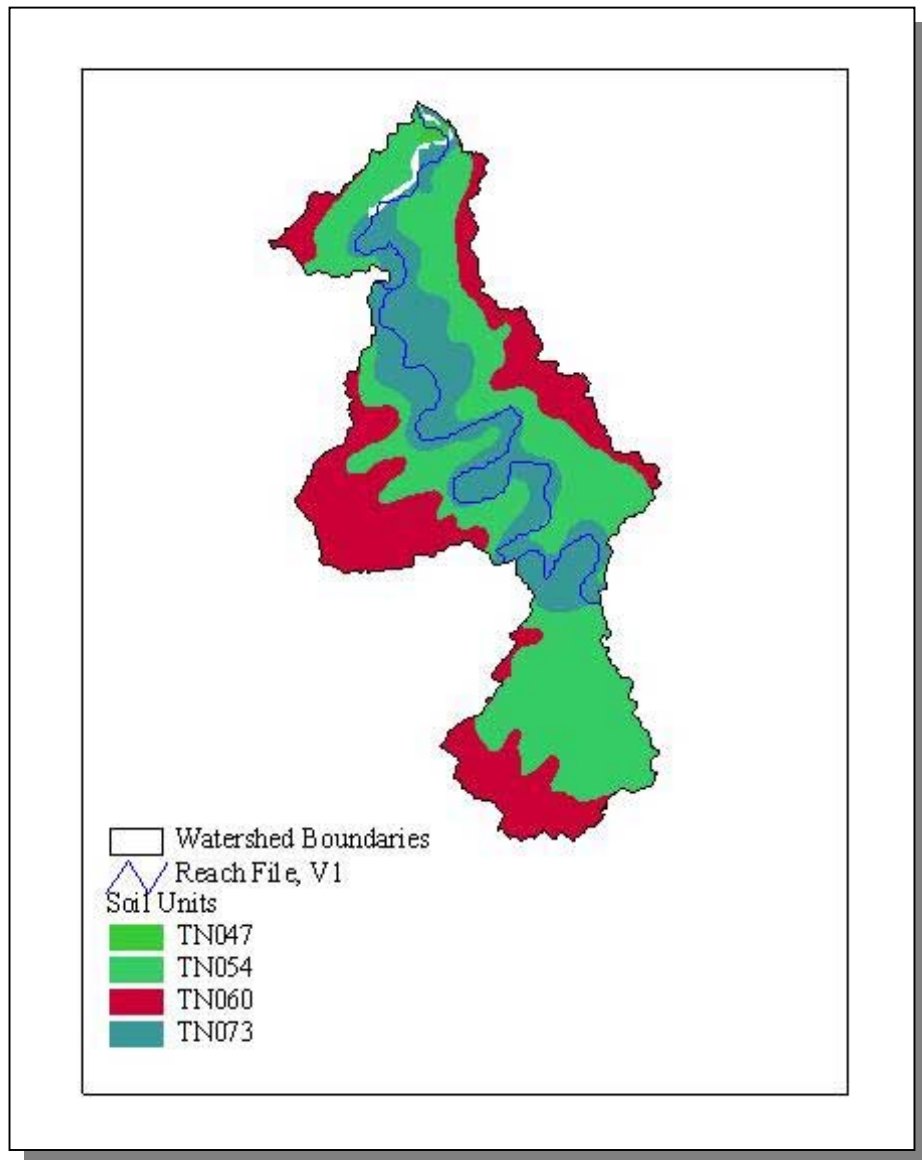


Figure 4-45. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204070.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hr)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN054	0.00	C	3.04	4.84	Loam	0.32
TN060	5.00	B	1.30	5.32	Silty Loam	0.39
TN073	0.00	B	2.97	5.21	Loam	0.34

Table 4-46. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204070. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Cheatham	27,140	34,402	19.14	5,195	6,585	26.8
Dickson	35,061	40,937	6.95	2,437	2,845	16.7
Williamson	81,021	111,453	3.92	3,176	4,369	37.6
Totals	143,222	186,792		10,808	13,799	27.7

Table 4-47. Population Estimates in Subwatershed 05130204070.

NUMBER OF HOUSING UNITS						
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Fairview	Williamson	4,210	1,479	833	640	6
White Bluff	Dickson	1,979	820	596	224	0
Kingston Springs	Cheatham	1,529	519	450	65	4
Pegram	Cheatham	1,371	535	20	510	5
Totals		9,089	3,353	1,899	1,439	15

Table 4-48. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204070.

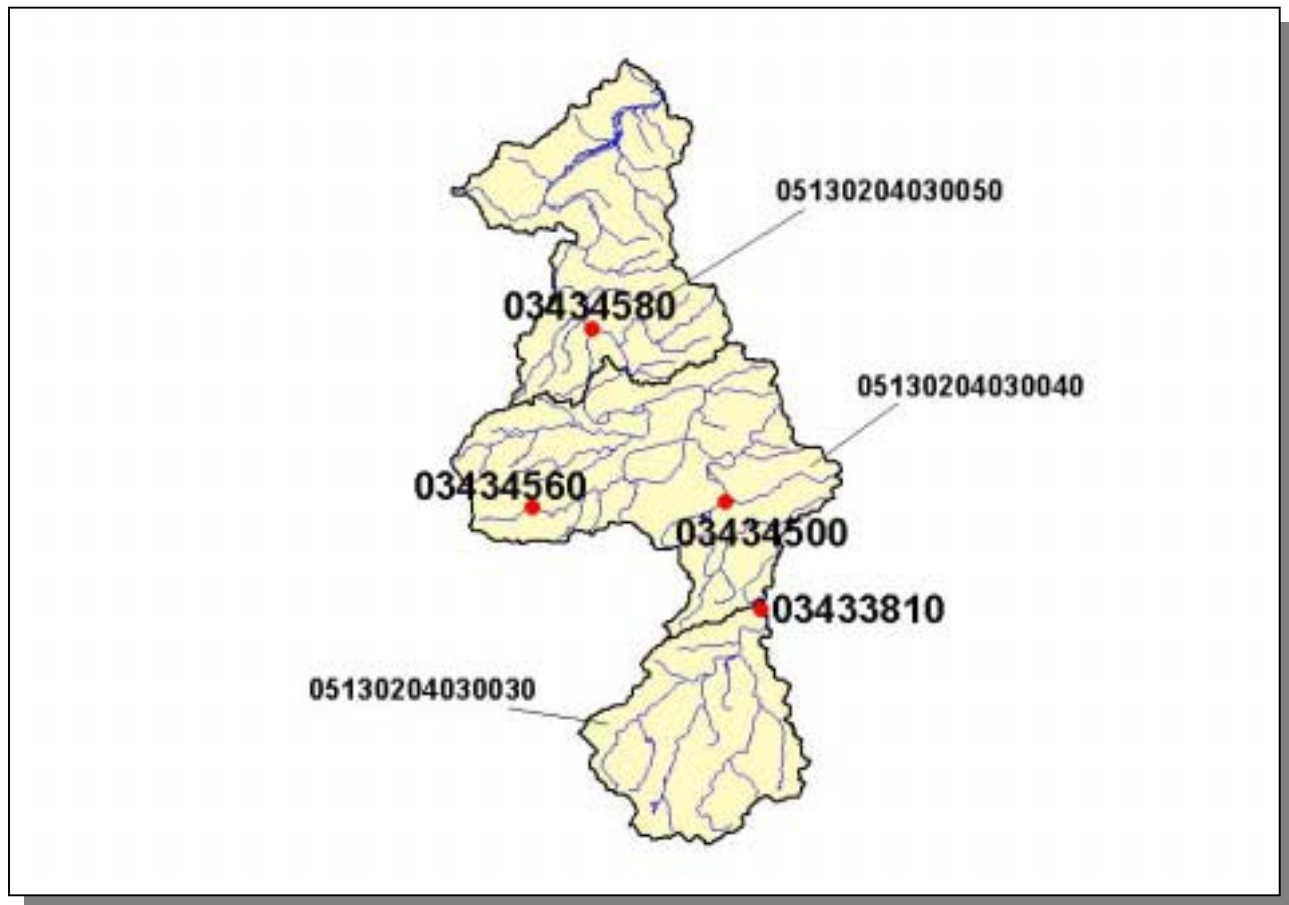


Figure 4-46. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204070. Subwatershed 05130204030030, 05130204030040, and 05130204030050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.



Figure 4-47. Location of STORET Monitoring Sites in Subwatershed 05130204070. Subwatershed 05130204030030, 05130204030040, and 05130204030050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.G.ii. Point Source Contributions.

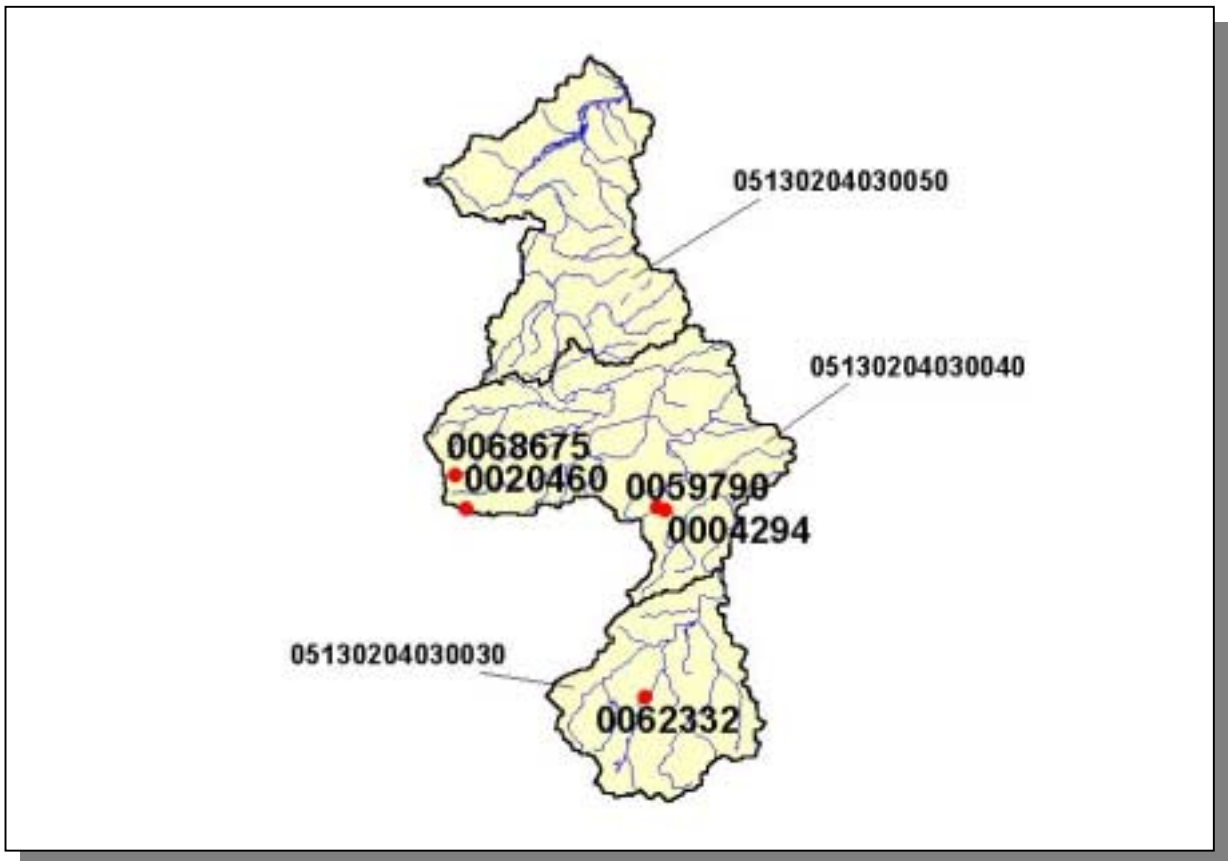


Figure 4-48. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204070. Subwatershed 05130204030030, 05130204030040, and 05130204030050 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

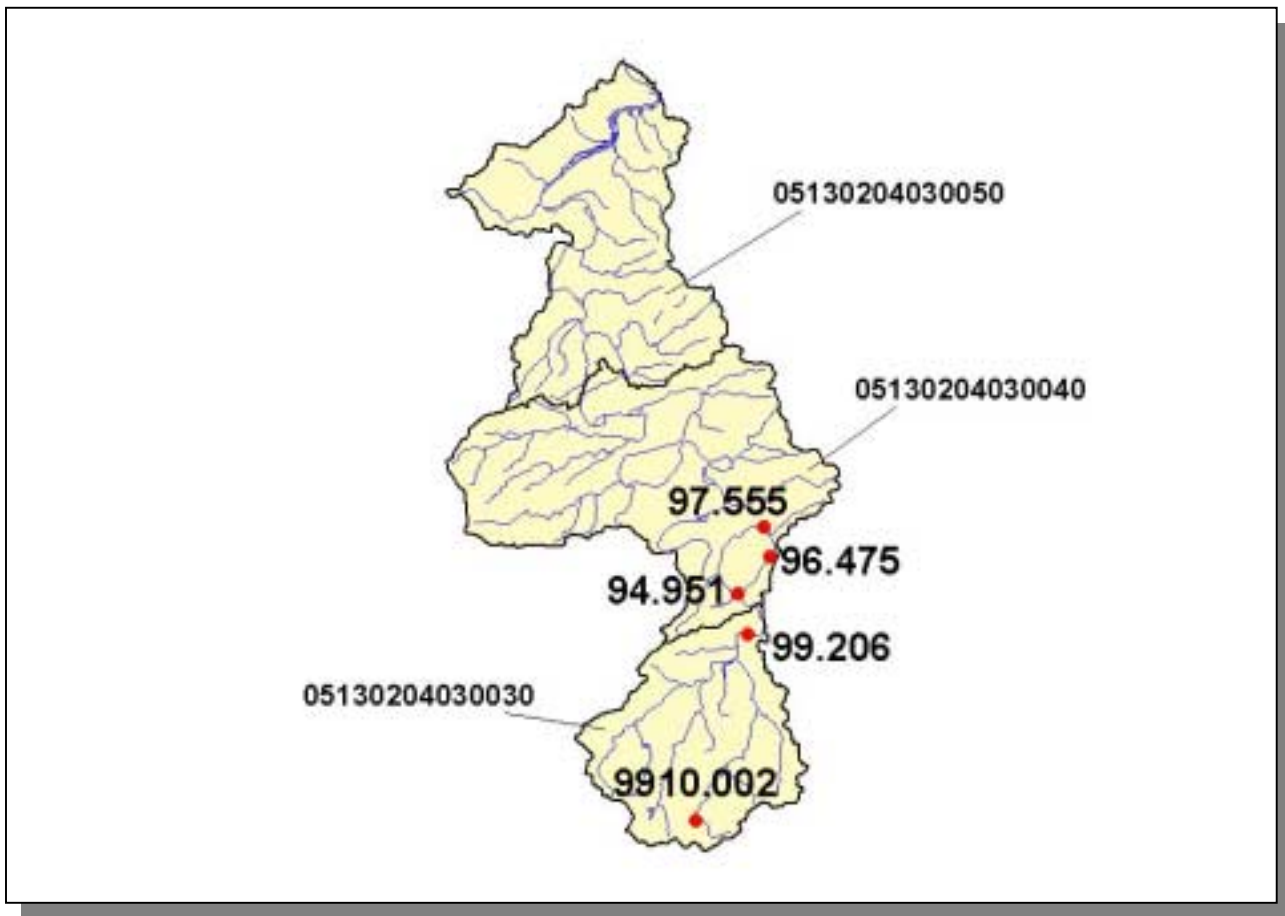


Figure 4-49. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204070. Subwatershed 05130204030030, 05130204030040 and 05130204030050 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.G.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
321	3,931	27	5	17	332	11

Table 4-49. Summary of Livestock Count Estimates in Subwatershed 05130204070. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Dickson	174.3	174.3	1.8	7.7
Williamson	142.0	142.0	1.0	3.3
Totals	434.5	434.5	5.1	19.4

Table 4-50. Forest Acreage and Average Removal Rates (1987-1994) in Subwatershed 05130204070.

CROPS	TONS/ACRE/YEAR
Soybeans (Row Crops)	7.79
Grass (Hayland)	0.42
Legume (Hayland)	0.55
Grass (Pastureland)	0.64
Grass, Forbs, Legumes (Mixed Pasture)	0.73
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	1.27
Corn (Row Crops)	6.27
Other Cropland not Planted	2.18
Legume Grass (Hayland)	0.35
Vineyard (Horticultural)	1.05
Other Vegetable and Truck Crops	7.71
Conservation Reserve Program Land	0.09
Tobacco (Row Crops)	6.75
Wheat (Close Grown Cropland)	1.27
Other Land in Farms	0.12
Legume (Pastureland)	0.33

Table 4-51. Annual Estimated Total Soil Loss in Subwatershed 05130204070.

4.2.H. 05130204080.



Figure 4-50. Location of Subwatershed 05130204080. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.H.i. General Description.

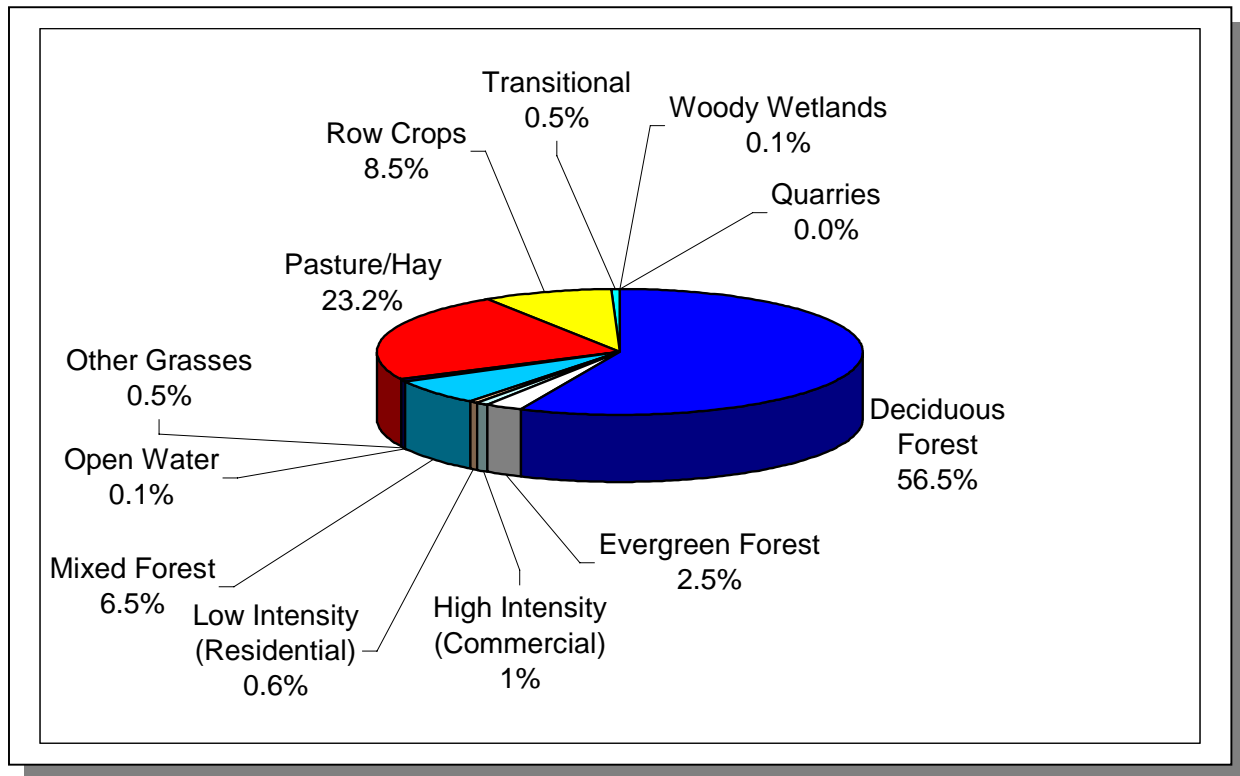


Figure 4-51. Land Use Distribution in Subwatershed 05130204080. More information is provided in Harpeth-Appendix IV.

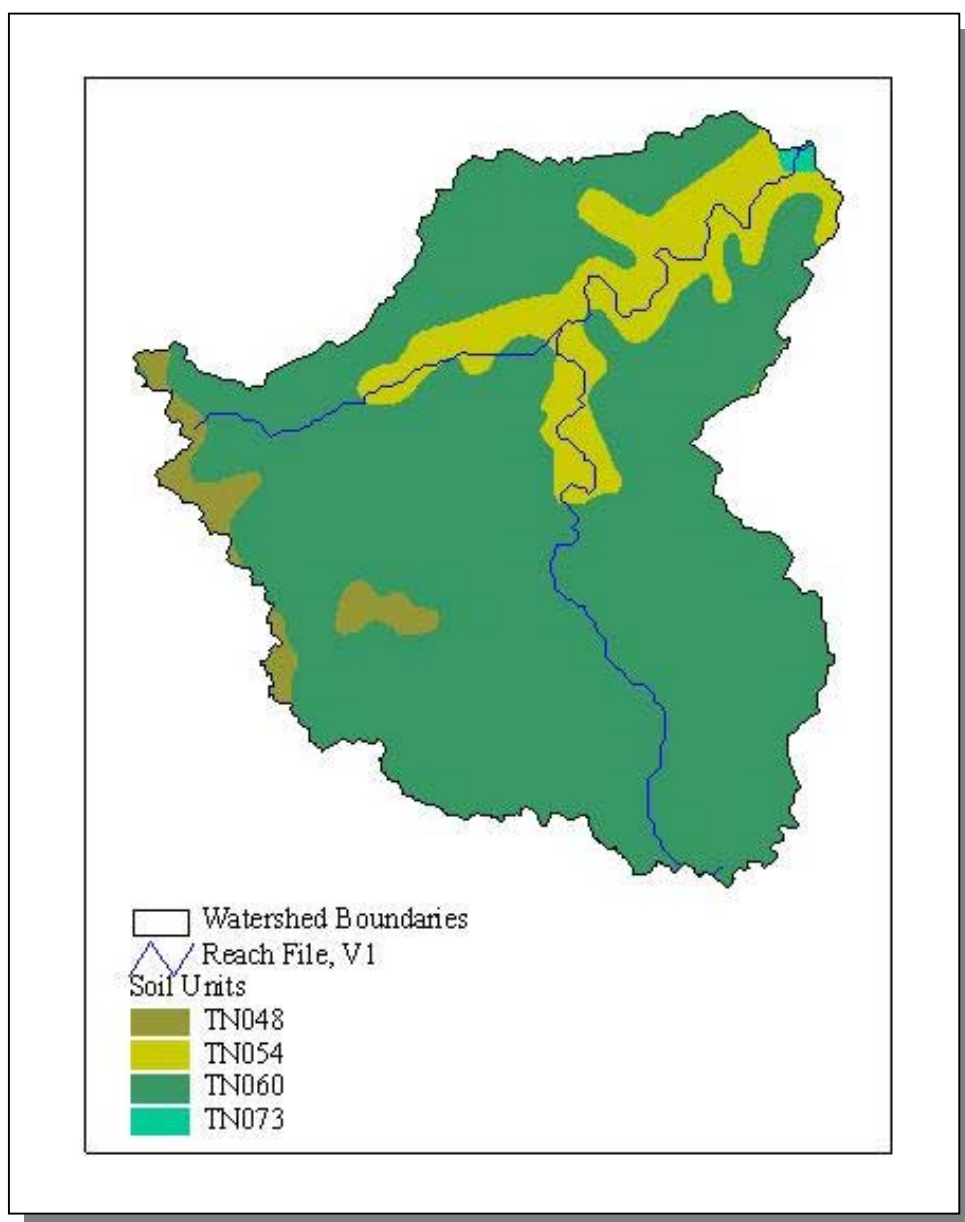


Figure 4-52. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204080.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	C	13.8	5.06	Silty Loam	0.42
TN054	0.00	C	30.4	4.84	Loam	0.32
TN060	5.00	B	13.0	5.32	Silty Loam	0.39
TN073	0.00	B	2.97	5.21	Loam	0.34

Table 4-52. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204080. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Cheatham	27,140	34,402	3.32	900	1,141	26.8
Dickson	35,061	40,937	13.36	4,685	5,470	16.8
Hickman	16,754	19,926	2.4	403	479	18.9
Williamson	81,021	111,453	4.32	3,503	4,819	37.6
Totals	159,976	206,718		9,491	11,909	25.5

Table 4-53. Population Estimates in Subwatershed 05130204080.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Fairview	Williamson	4,210	1,479	833	640	6
Burns	Dickson	1,127	440	53	384	3
Dickson	Dickson	8,791	3,818	3,268	540	10
White Bluff	Dickson	1,979	820	596	224	0
Kingston Springs	Cheatham	1,529	519	450	65	4
Totals		17,636	7,076	5,200	1,853	23

Table 4-54. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204080.



Figure 4-53. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204080. Subwatershed 05130204050010 and 05130204050020 boundaries are shown for reference. More information may be found in Harpeth-Appendix IV.

4.2.H.ii. Point Source Contributions.

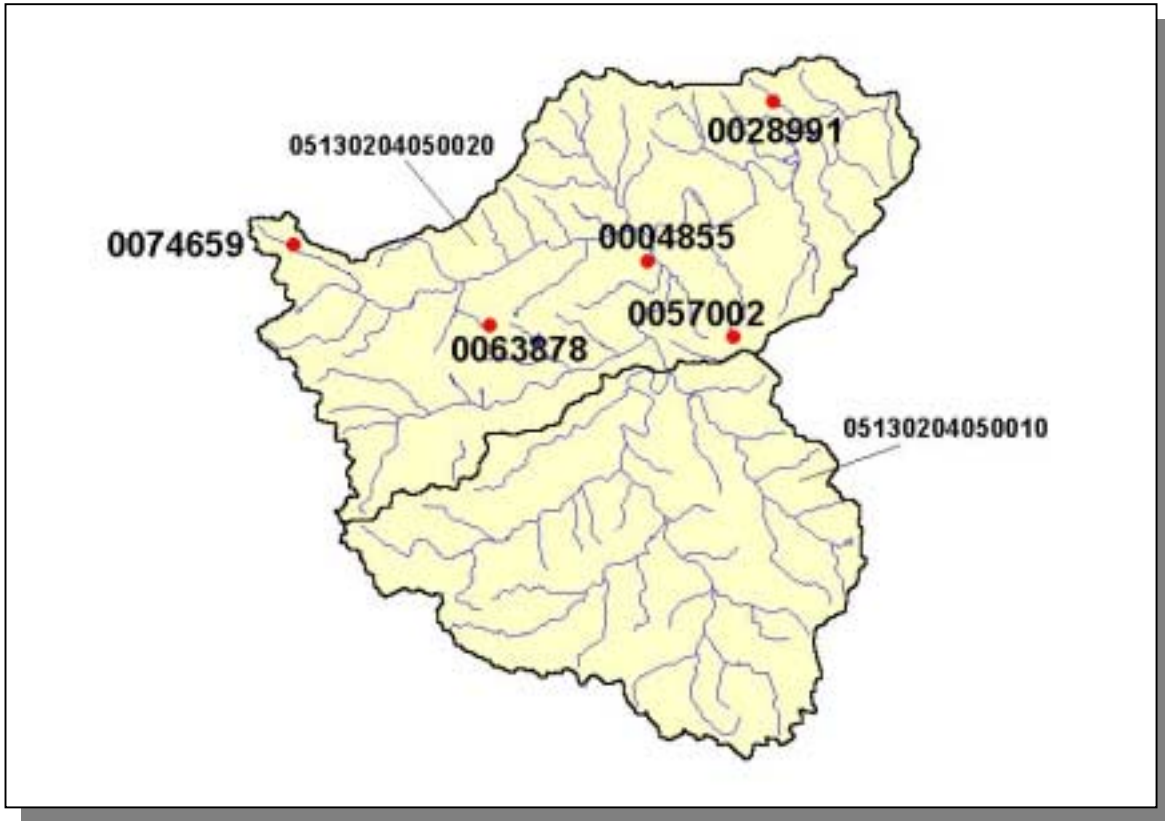


Figure 4-54. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204080. Subwatershed 05130204050010 and 05130204040020 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-55. Location of Active Mining Sites in Subwatershed 05130204080. Subwatersheds 05130204050010 and 05130204050020 are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

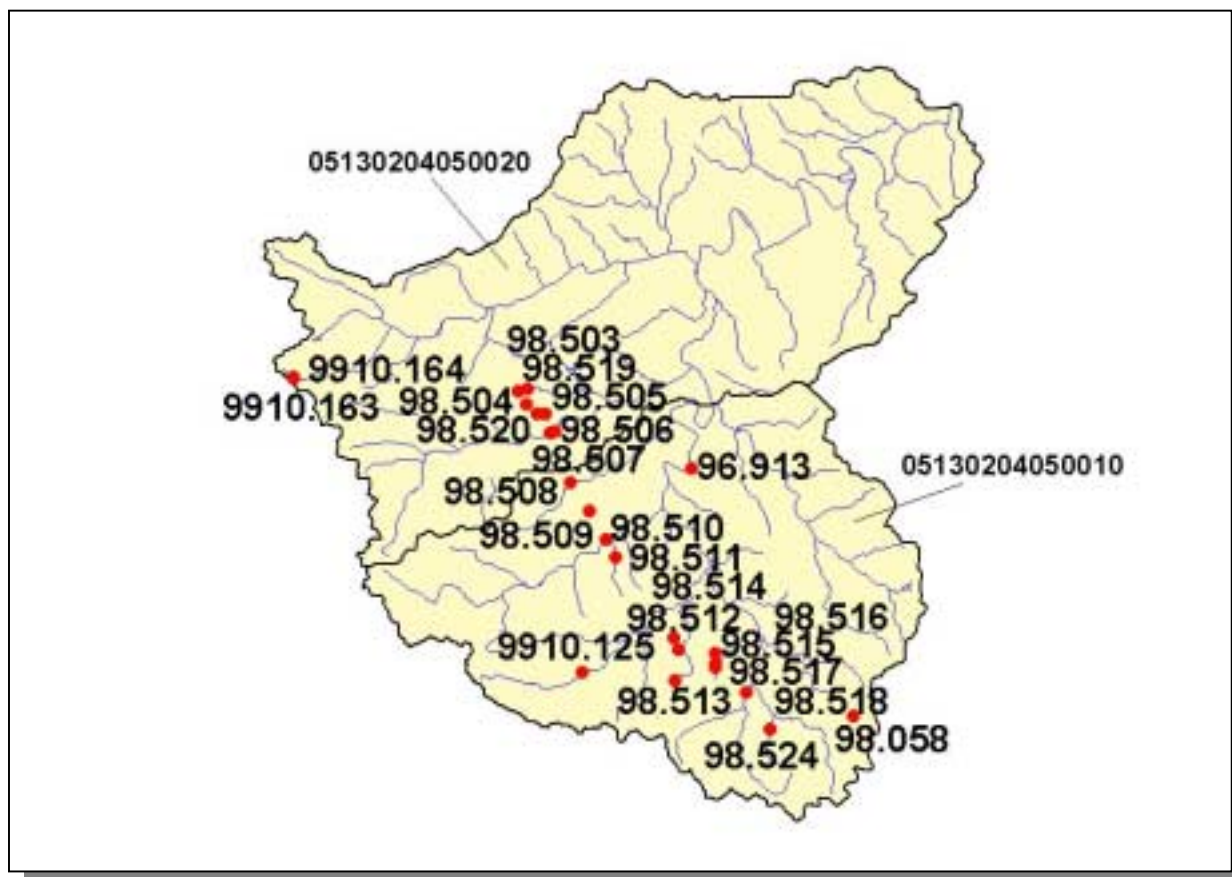


Figure 4-56. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204080. Subwatershed 05130204050010 and 05130204050020 boundaries are shown for reference. Additional information may be found in Harpeth-Appendix IV.

4.2.H.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
1,956	9,382	84	17	63	834	36

Table 4-55. Summary of Livestock Count Estimates in Subwatershed 05130204080. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Dickson	174.3	174.3	1.8	7.7
Hickman	297.2	297.2	5.8	23.0
Williamson	142.0	142.0	1.0	3.3
Totals	731.7	731.7	10.9	35.4

Table 4-56. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204080.

CROPS	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Soybeans (Row Crops)	5.19
Grass (Hayland)	0.36
Legume (Hayland)	0.88
Grass (Pastureland)	0.68
Grass Forbs Legumes (Mixed Pasture)	0.69
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	2.23
Corn (Row Crops)	4.11
Other Cropland not Planted	4.74
Legume Grass (Hayland)	0.43
Vineyard (Horticultural)	1.05
Other Vegetable and Truck Crops	7.71
Conservation Reserve Program Land	0.18
Tobacco (Row Crops)	7.10
Wheat (Close Grown Cropland)	1.27
Other Land in Farms	0.12
Legume (Pastureland)	0.46

Table 4-57. Annual Estimated Total Soil Loss in Subwatershed 05130204080.

4.2.I. 05130204090.

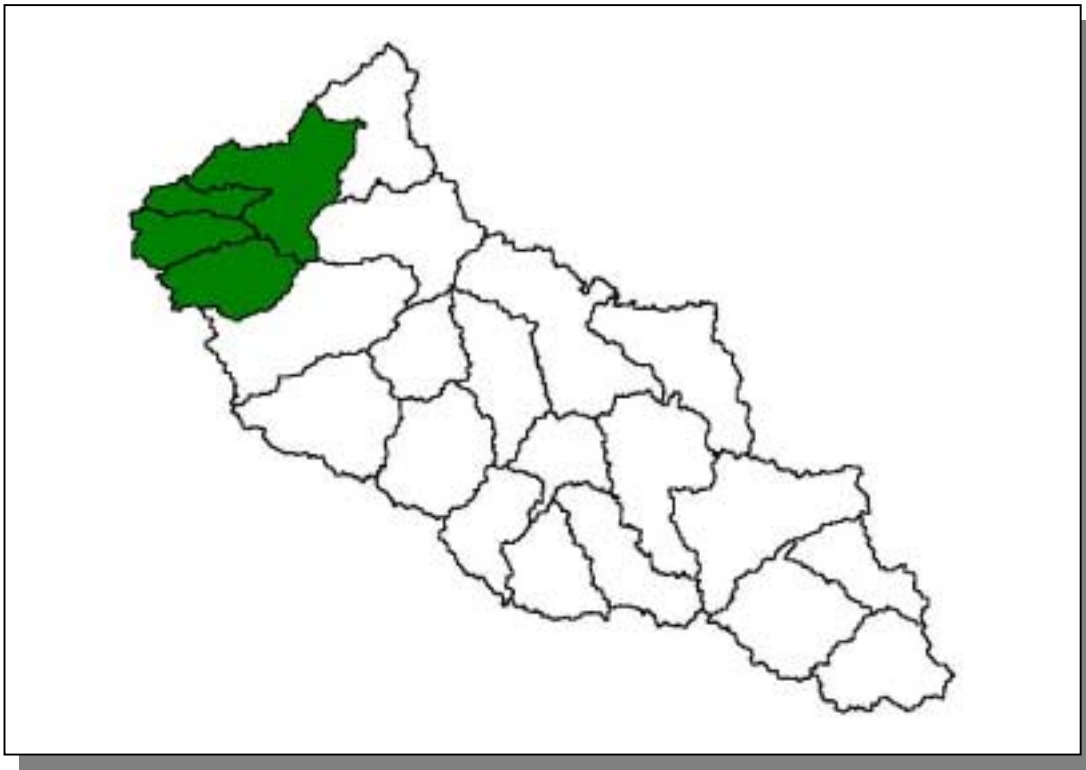


Figure 4-57. Location of Subwatershed 05130204090. All Harpeth HUC-14 subwatershed boundaries are shown for reference.

4.2.1.i. General Description.

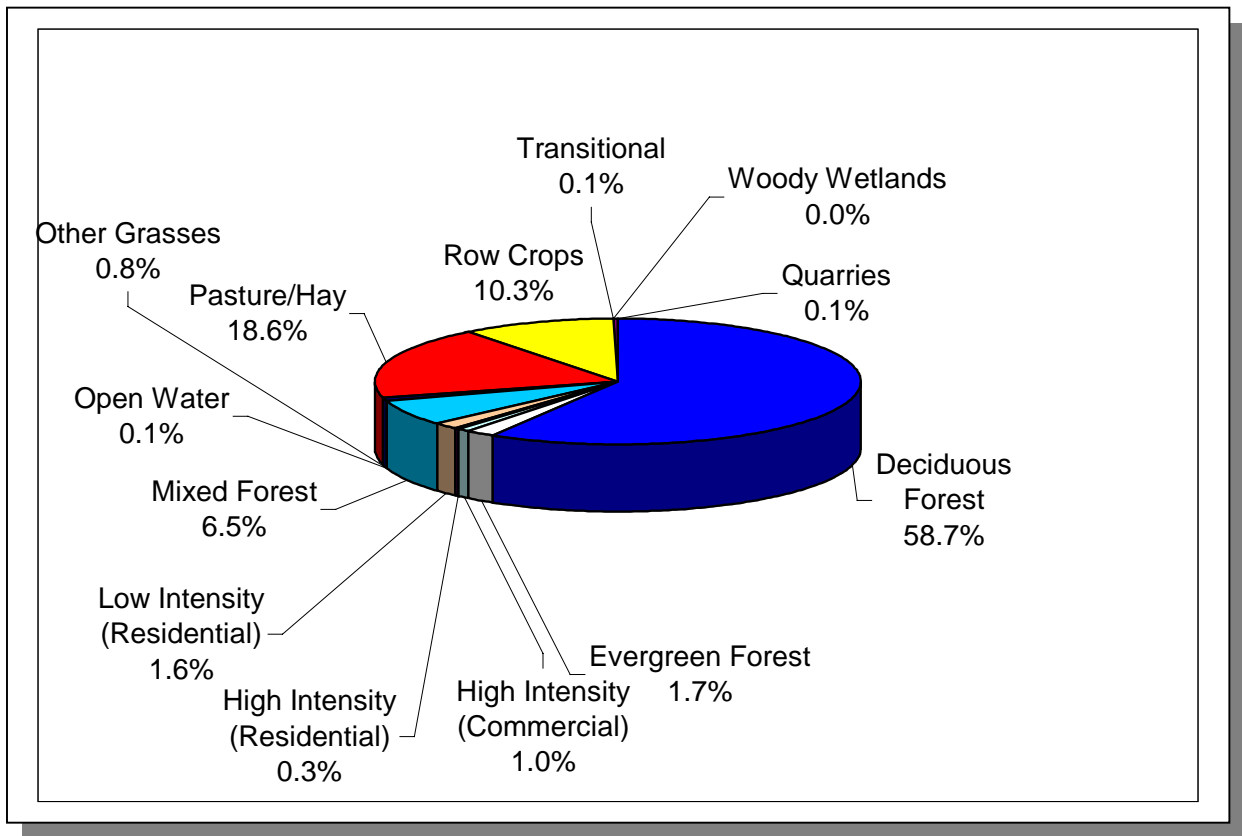


Figure 4-58. Land Use Distribution in Subwatershed 05130204090. More information is provided in Harpeth-Appendix IV.

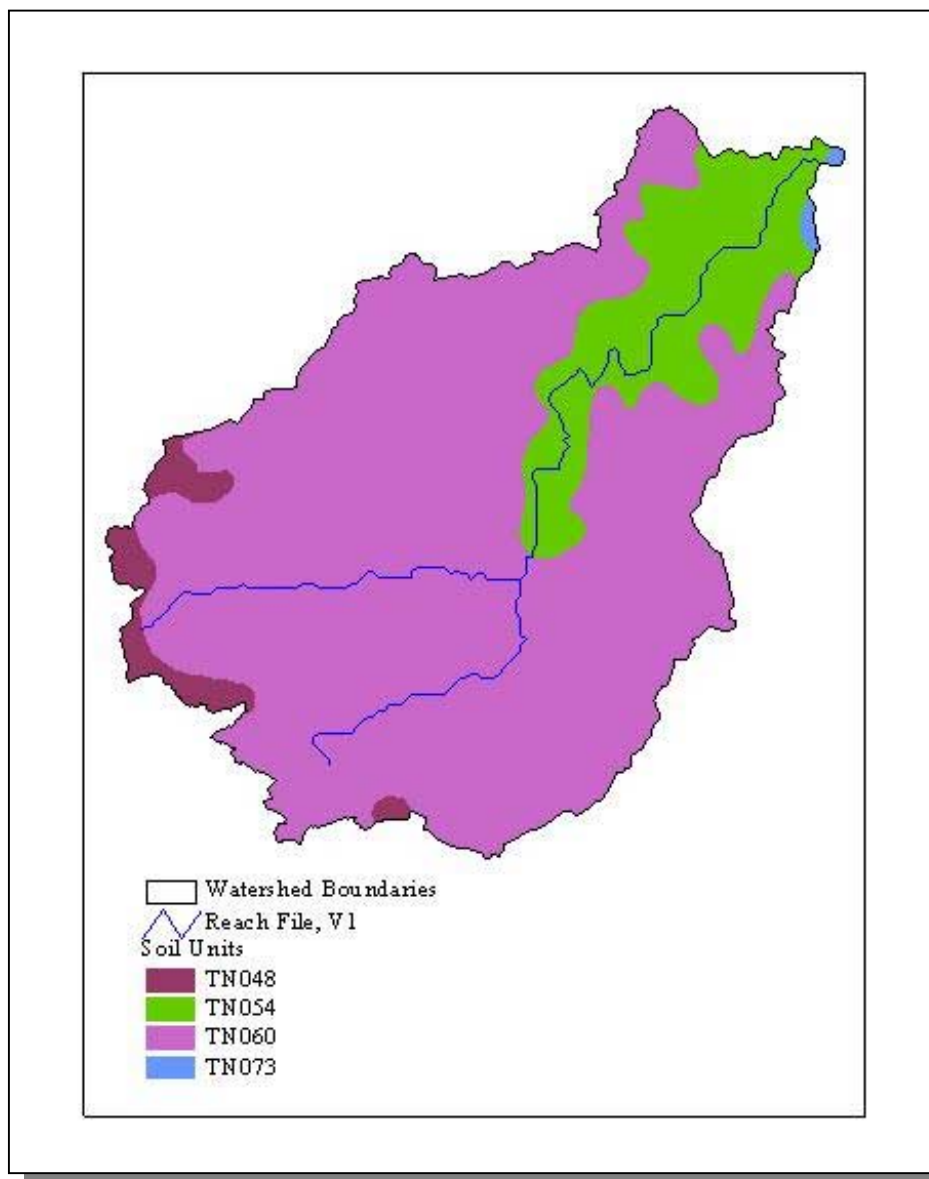


Figure 4-59. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204090.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	C	1.38	5.06	Silty Loam	0.42
TN054	0.00	C	3.04	4.84	Loam	0.32
TN060	5.00	B	1.30	5.32	Silty Loam	0.39
TN073	0.00	B	2.97	5.21	Loam	0.34

Table 4-58. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 05130204090. More information is provided in Harpeth-Appendix IV.

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Dickson	35,061	40,937	22.29	7,814	9,123	16.8

Table 4-59. Population Estimates in Subwatershed 05130204090.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Burns	Dickson	1,127	440	53	384	3
Charlotte	Dickson	854	374	272	97	5
Dickson	Dickson	8,791	3,818	3,268	540	10
White Bluff	Dickson	1,979	820	596	224	0
Totals		12,751	5,452	4,189	1,245	18

Table 4-60. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 05130204090.

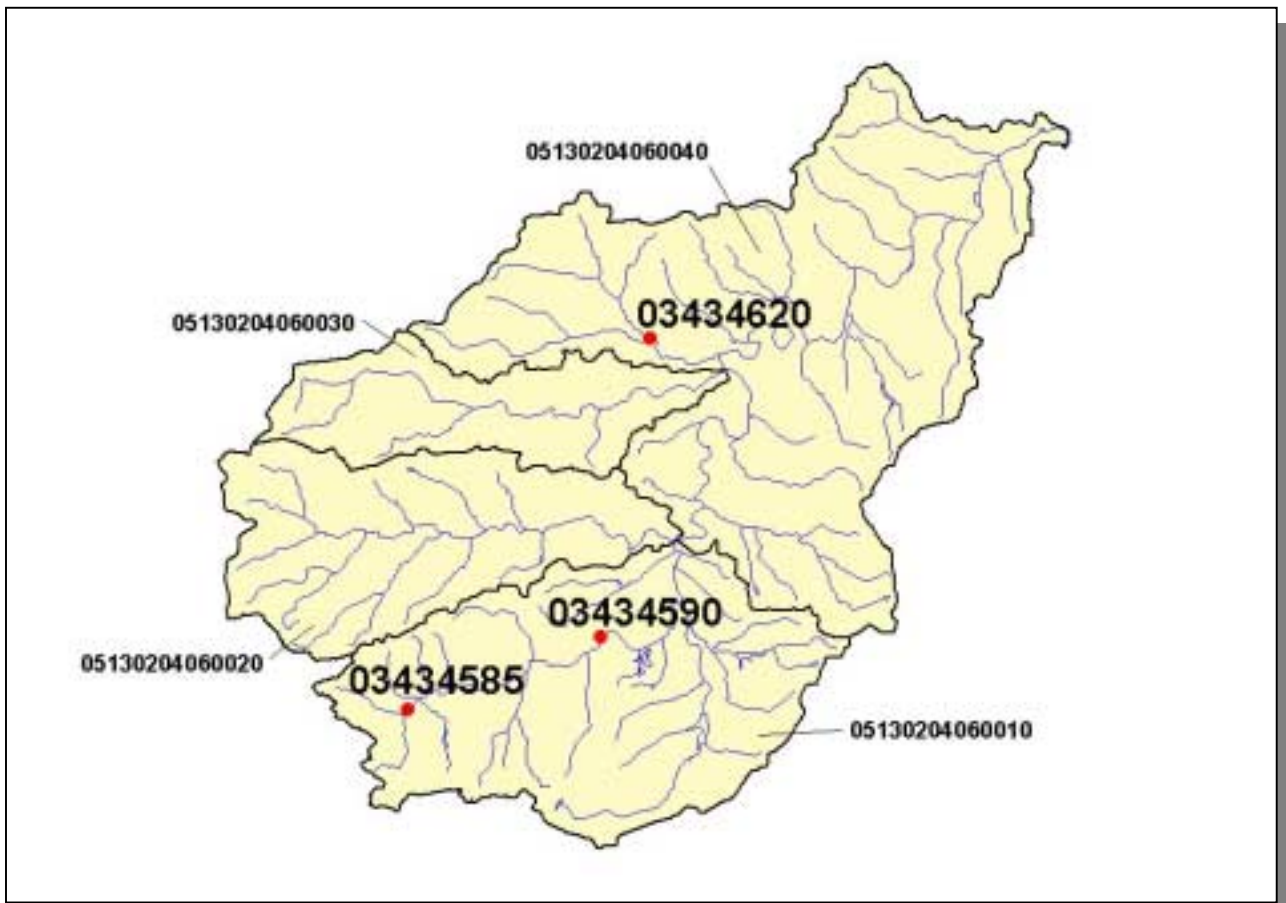


Figure 4-60. Location of Historical Streamflow Data Collection Sites in Subwatershed 05130204090. Subwatershed 05130204060010, 05130204060020, 051309204060030, and 05130204060040 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.



Figure 4-61. Location of STORET Monitoring Sites in Subwatershed 05130204090. Subwatershed 05130204060010, 05130204060020, 05130204060030, and 05130204060040 boundaries are shown for reference. More information is provided in Harpeth-Appendix IV.

4.2.I.ii. Point Source Contributions.



Figure 4-62. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 05130204090. Subwatershed 05130204060010, 05130204060020, 051309204060030, and 05130204060040 boundaries are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.



Figure 4-62. Location of Active Mining Sites in Subwatershed 05130204090. Subwatersheds 05130204060010, 05130204060020, 05130204060030 and 05130204060040 are shown for reference. More information, including the names of facilities, is provided in Harpeth-Appendix IV.

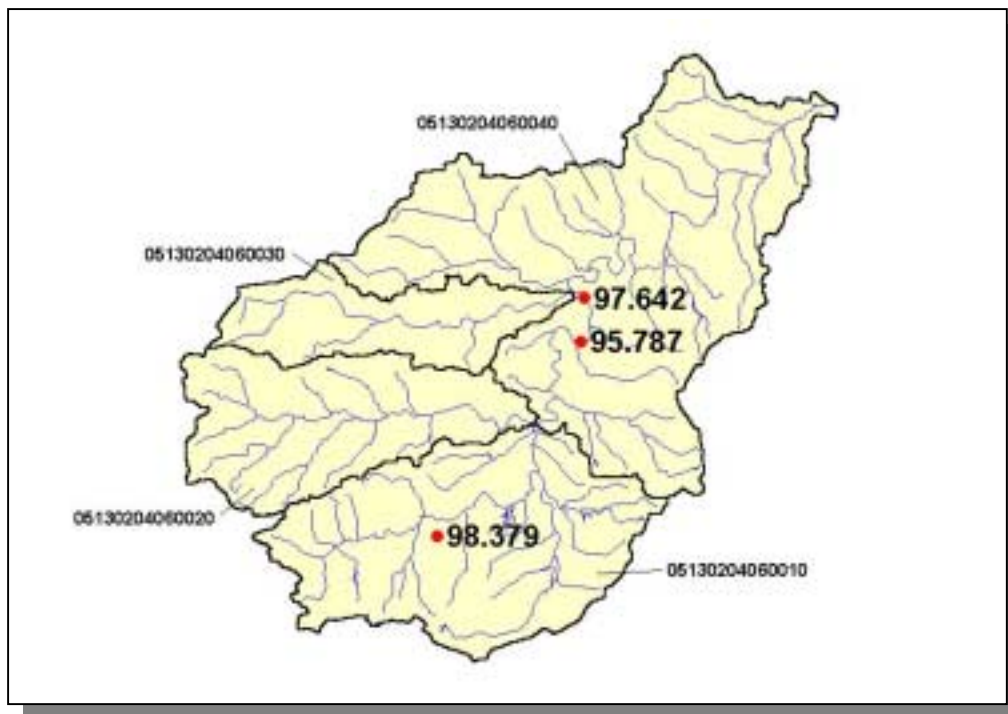


Figure 4-63. Location of ARAP Sites (Individual Permits) in Subwatershed 05130204090. Subwatershed 05130204060010, 05130204060020, 05130204060030, and 05130204060040 boundaries are shown for reference. More details may be found in Harpeth-Appendix IV.

4.2.I.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Cattle	Chickens	Chickens Sold	Hogs	Sheep
6,998	15	81	502	7

Table 4-61. Summary of Livestock Count Estimates in Subwatershed 05130204090. According to the Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Dickson	174.3	174.3	1.8	7.7

Table 4-62. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 05130204090.

CROPS	TONS/ACRE/YEAR
Corn (Row Crops)	2.91
Grass (Hayland)	0.48
Grass (Pastureland)	0.60
Grass, Forbs, Legumes (Mixed (Pasture)	0.74
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	3.78
Vineyard (Horticultural)	1.05
Other Vegetable and Truck Crop	7.71
Conservation Reserve Program Land	0.07
Non Agricultural Land Use	0.00
Legume Grass (Hayland)	0.59

Table 4-63. Annual Estimated Total Soil Loss in Subwatershed 05130204090.